ARCHITECTURE

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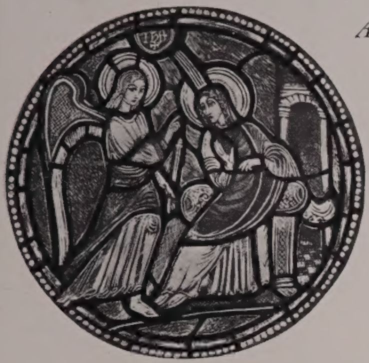
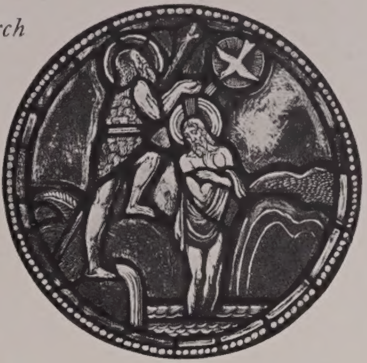




Accurate detail studies of glass for a Gothic church

Edgar Miller,
Designer-Craftsman

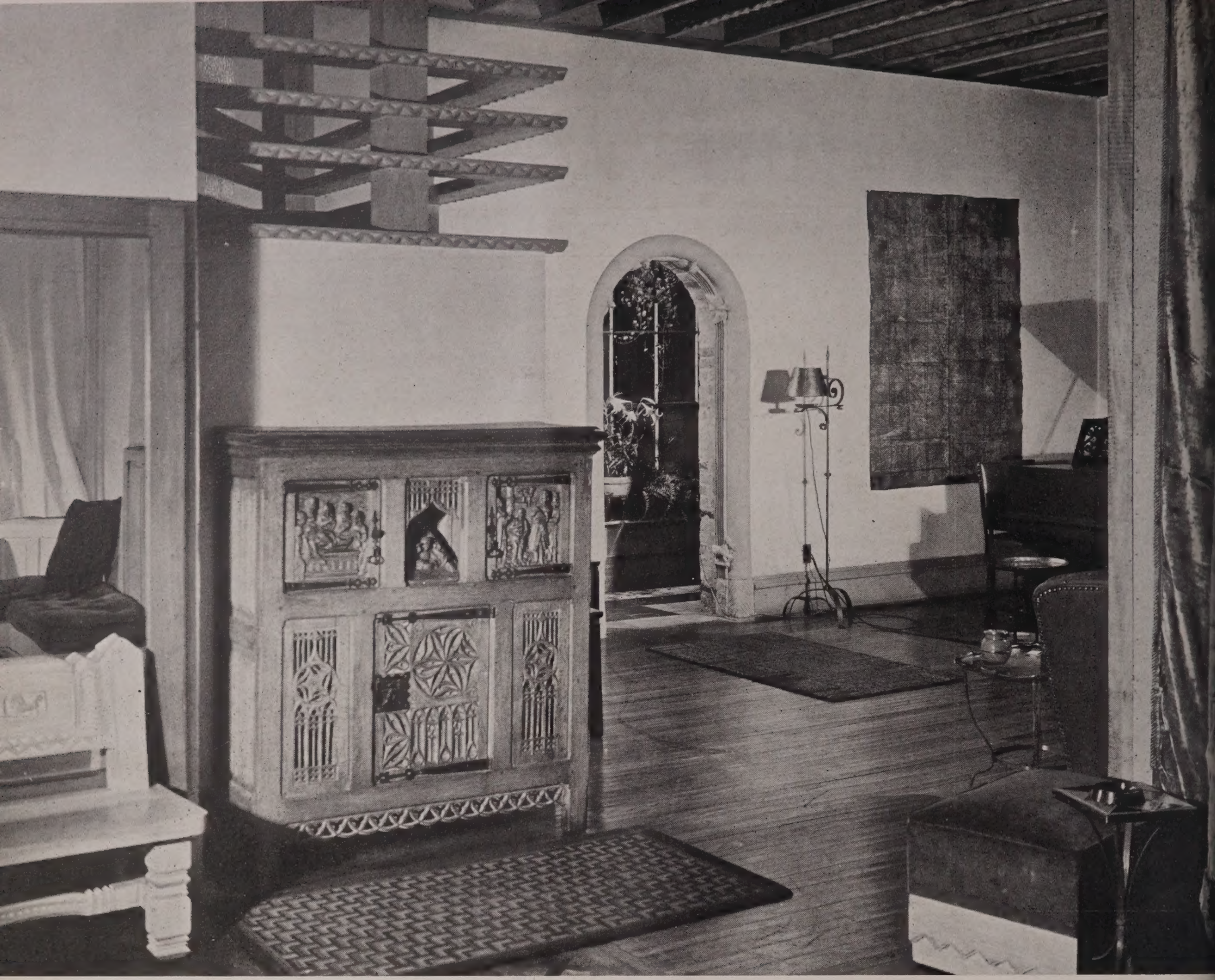
By Earl H. Reed, Jr.

Edgar Miller by Saul Kogen

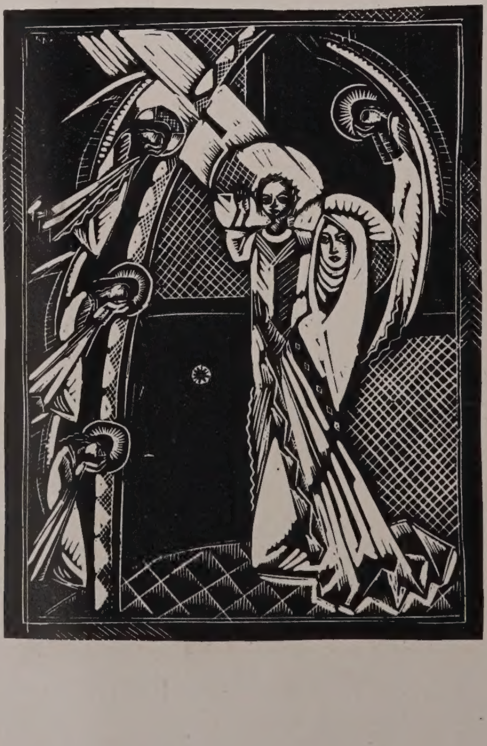
A NEW luminary has risen in American decorative art. Each fresh product of Edgar Miller, designer-craftsman, of Chicago, is proof of this. Signs of an exceptional creative versatility abound in the Carl Street courtyard where his workshop is located. Pavements of marble fragments, a colorful door engraved with Milleresques—glamorous races of super-beings, birds, beasts, fishes, and growing things miraculously inhabiting his creations, glimpses of a new sort of brilliant leaded glass whose geometry weds it to its setting, ingeniously carved wood; all these delight the eyes of any who enter this abode of the arts. Soft-textured walls with justly proportioned openings tower above. And the background of these accents is vastly simple, to the enhancement of the whole.

The atelier at the courtyard's end is like an antique shop in a refreshing present tense. Hundreds of objects, newly made and in process, are in sight. Gorgeous painted ceramics, etched glass, clay animal grotesques, a great church window with sober saints, panels of engraved polychrome wood, drawings of things imagined and things to be made, book illustrations, carvings in wood and stone, plaster reliefs, elegant or humorous—a delectable confusion to which strength or delicacy of color and form have been bountifully brought. A Mexican assistant labors, brush in hand, on the rounded surfaces of a great clay bowl, converting it into an object of distinction. Miller himself cuts with undisguised joy into the hard fabric of a chance fragment of stone, from which will presently emerge an unbelievable rabbit. Thus it goes in that fascinating place—materials of every sort taking beautiful and appropriate form under the urge of a powerful imagination.

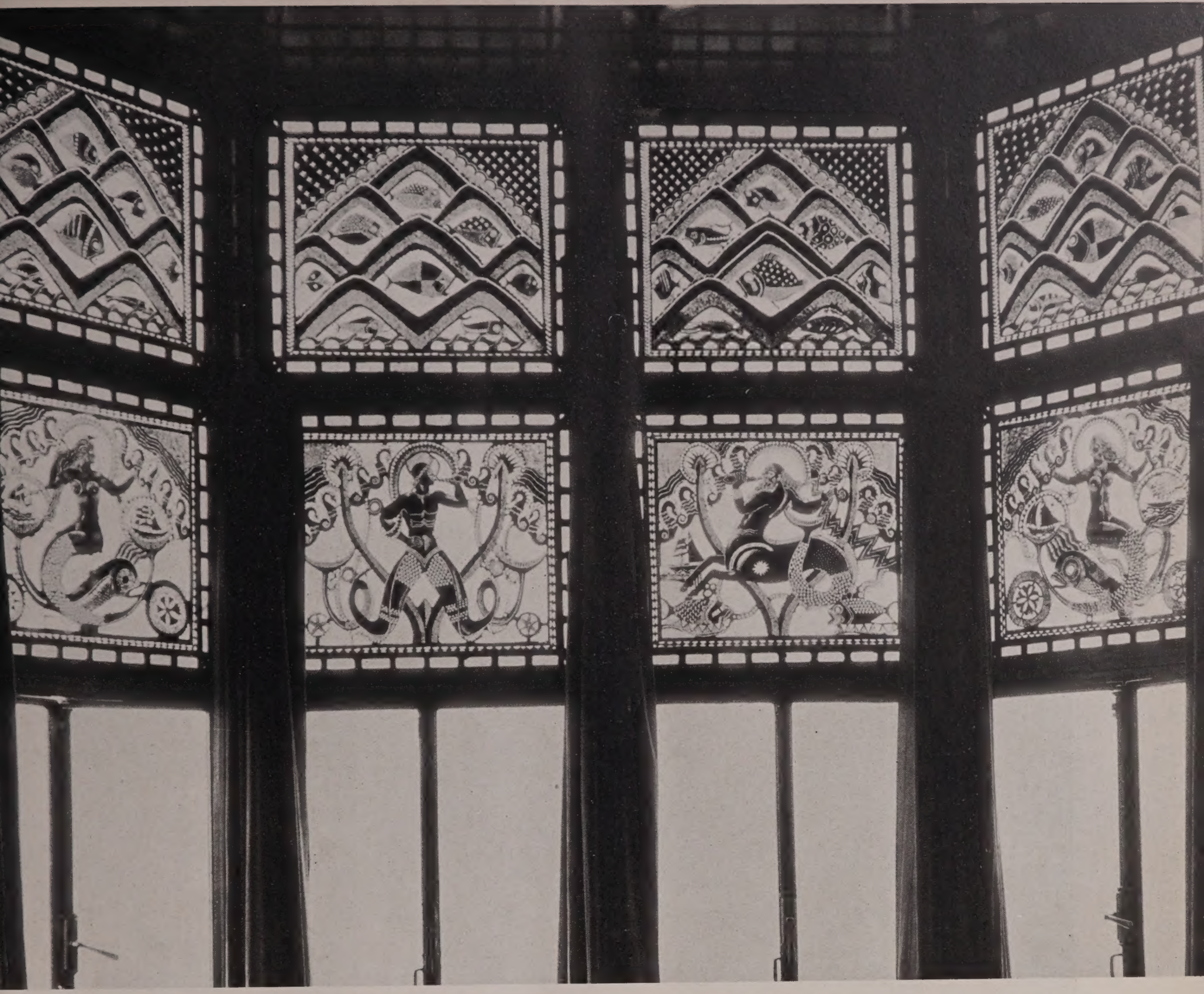
A lithograph portrait by Saul Kogen, his colleague and friend, which accompanies this appreciation, strongly suggests Miller's unique personality. He is slight, blondish, whimsically humorous of eye, and thirty-one. His pure English-American ancestry is a phenomenon in these melting-pot days when the virtuoso field is so largely monopolized by Jans and Mischas. Incessantly lashed by a creative talent demanding expression—and none has more completely sacrificed life's common solaces for artistic ends—Edgar Miller is nevertheless genial, gentle, modest, and co-operatively inclined. He labors hard and incessantly with an inner satisfaction which his creations clearly display. Pilgrimages to New Orleans at Mardi Gras time, an occasional journey to Mexico, such companionship with friends as work permits, and, above all, an unusual enjoyment of his own and other people's children, which finds expression in quaint and elaborate fantasies for their plea-



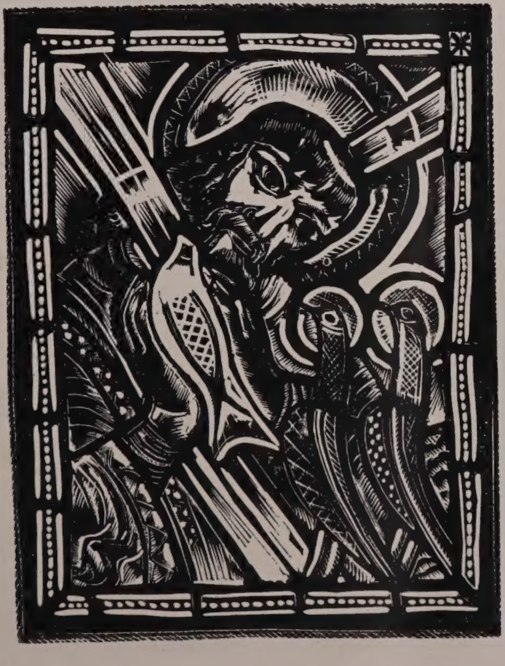
Living-room in the studio residence of George Robb Collins. Walls, white; trim, light-finish white oak, carved at the stair rail; unglazed terra-cotta arch opening into conservatory; carved bench in left foreground



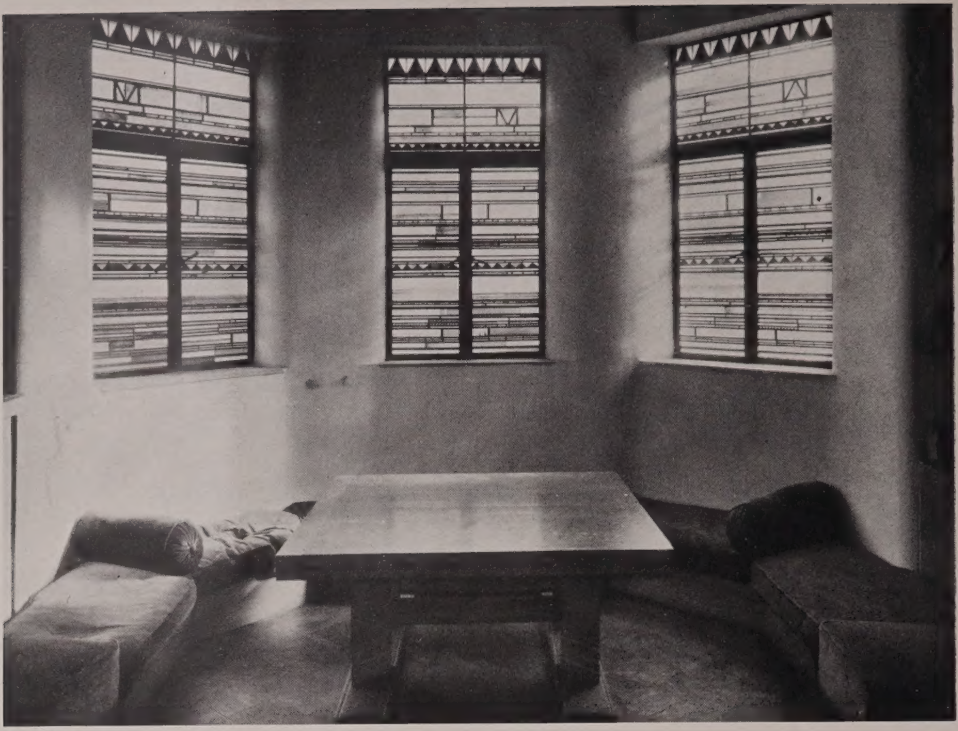
One of Edgar Miller's characteristic woodcuts



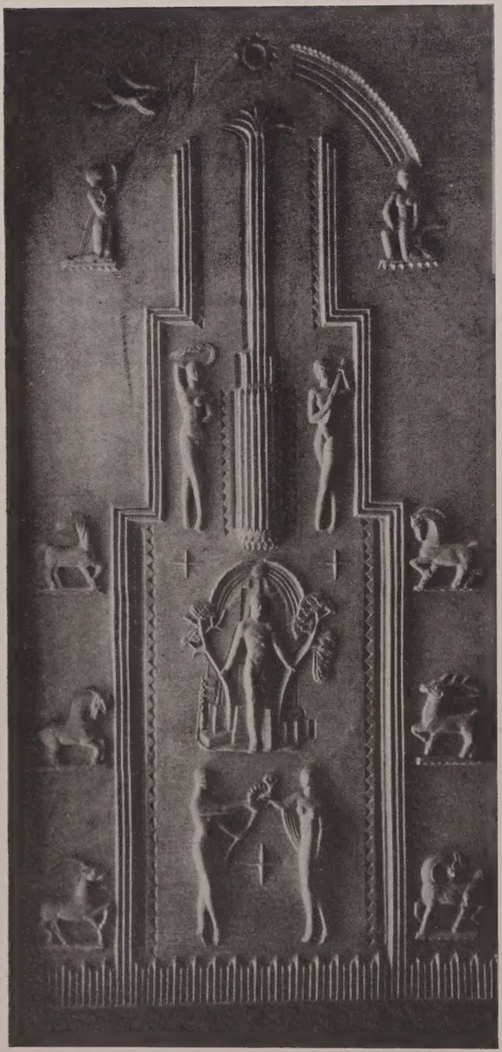
Windows in leaded glass and cut lead, in one of the Palmolive Company's executive offices. There are light water tints used in the borders; otherwise the windows count as black-and-white



Woodcut study for a leaded glass panel

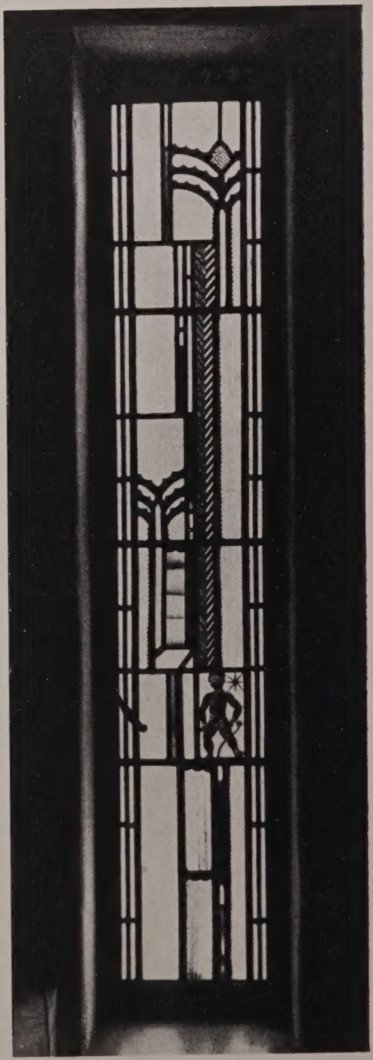


Dining alcove in the studio residence of George Robb Collins. The windows are in obscure-textured white glass and black glass, with occasional varying tints. Table is of white oak in natural finish



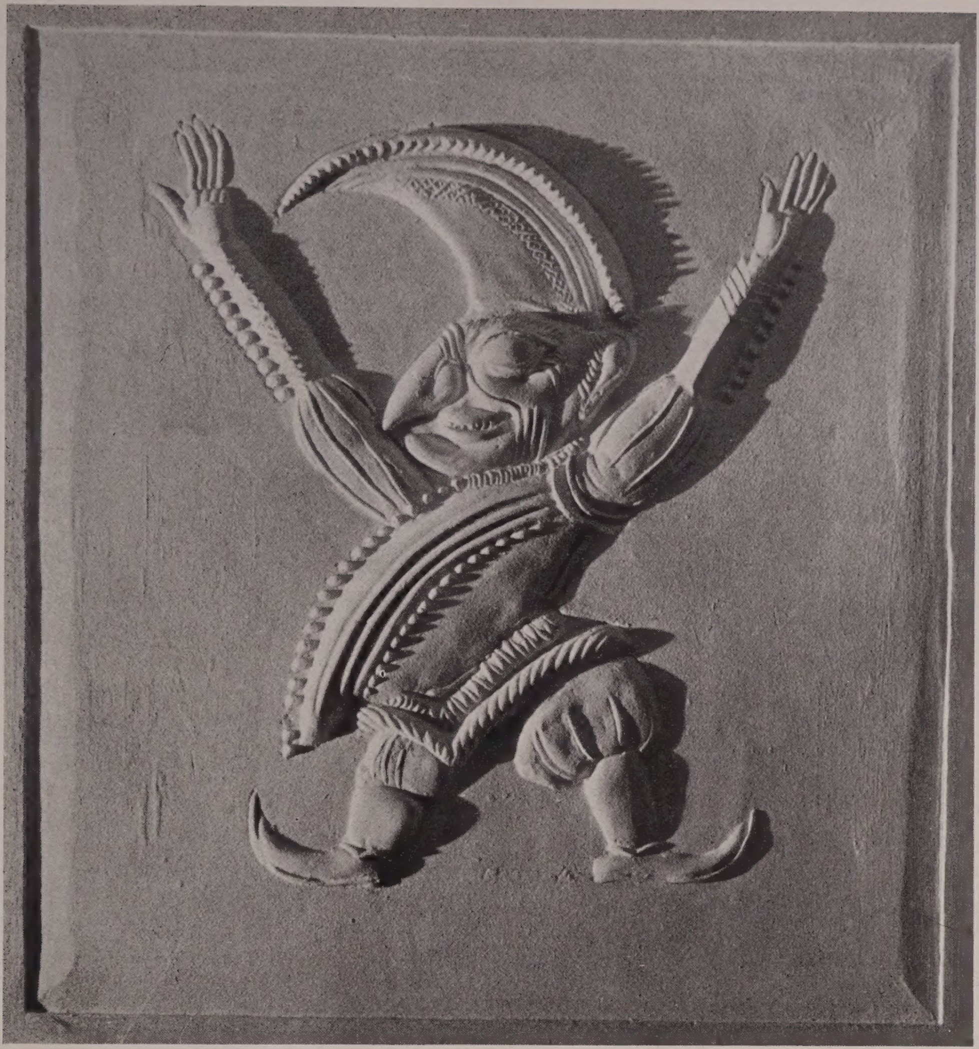
A bas-relief cast in concrete, to be used as a detail over an entrance—the house of R. W. Glasner, Chicago

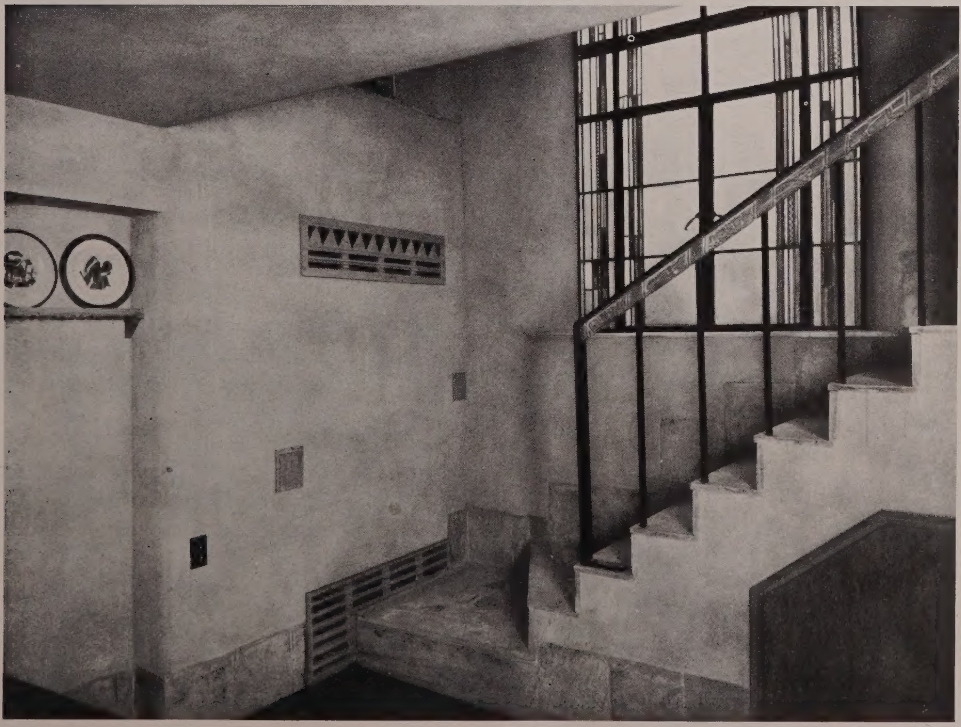
Miller's rough sketches are the shorthand representation of a clear mental image



A library window in cut lead and white-textured glass, with strips of bright colors sparingly used

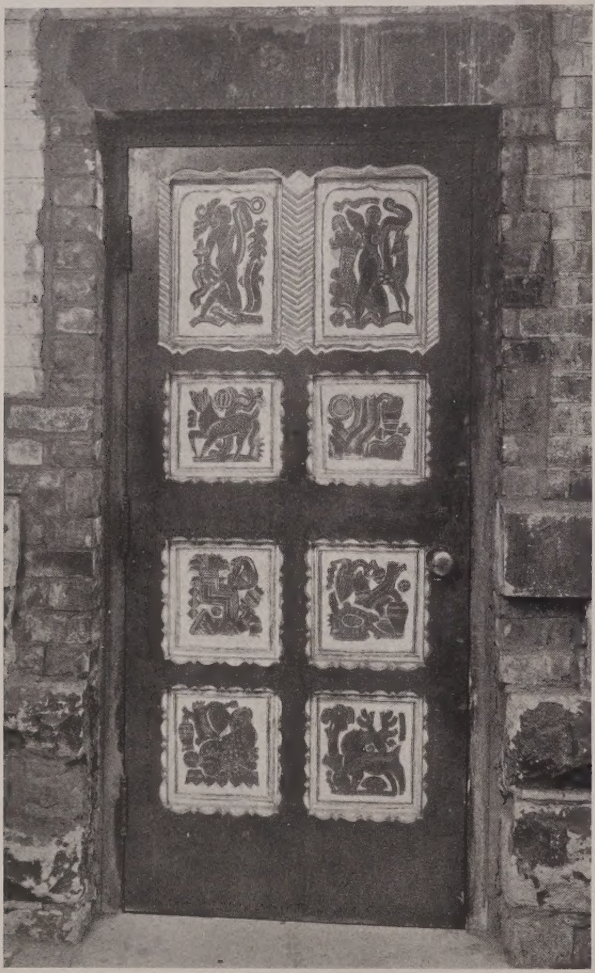
Plaster plaque in the Punch and Judy Theatre, Van Buren Street, Chicago. Designed and executed by Edgar Miller





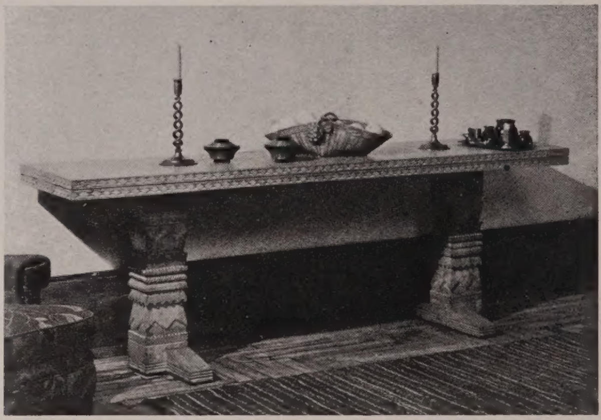
An indication of Miller's versatility: iron stair rail, with carved oak under handrail; carved wood grille to hide radiation source; glass obscure-white, with occasional obscure tints; over-glaze china on the plate rail sure; these are his relaxations and by these you may know him.

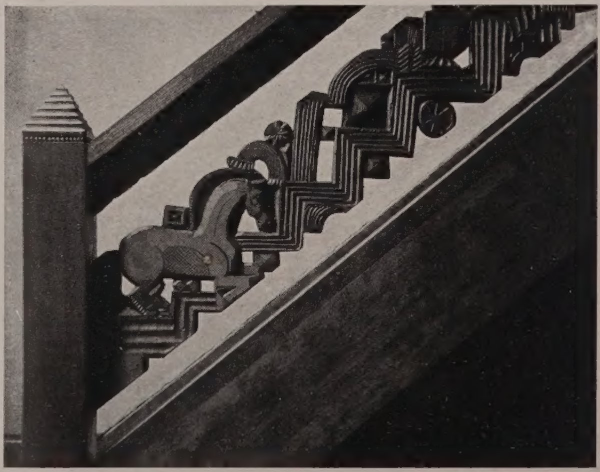
True to his type, his productive moments are preceded by deliberate contemplation of the problem to be met in both its structural and decorative aspects. Few or no sketches are made unless others must be let into the secret. Then suddenly, it seems, the composition emerges full-blown, with superb finish, from the material itself. It is common for Miller to proceed boldly in lead and glass, for instance, without benefit of cartoon, matching colors and cutting forms in accordance with a vivid and compelling inner sight.

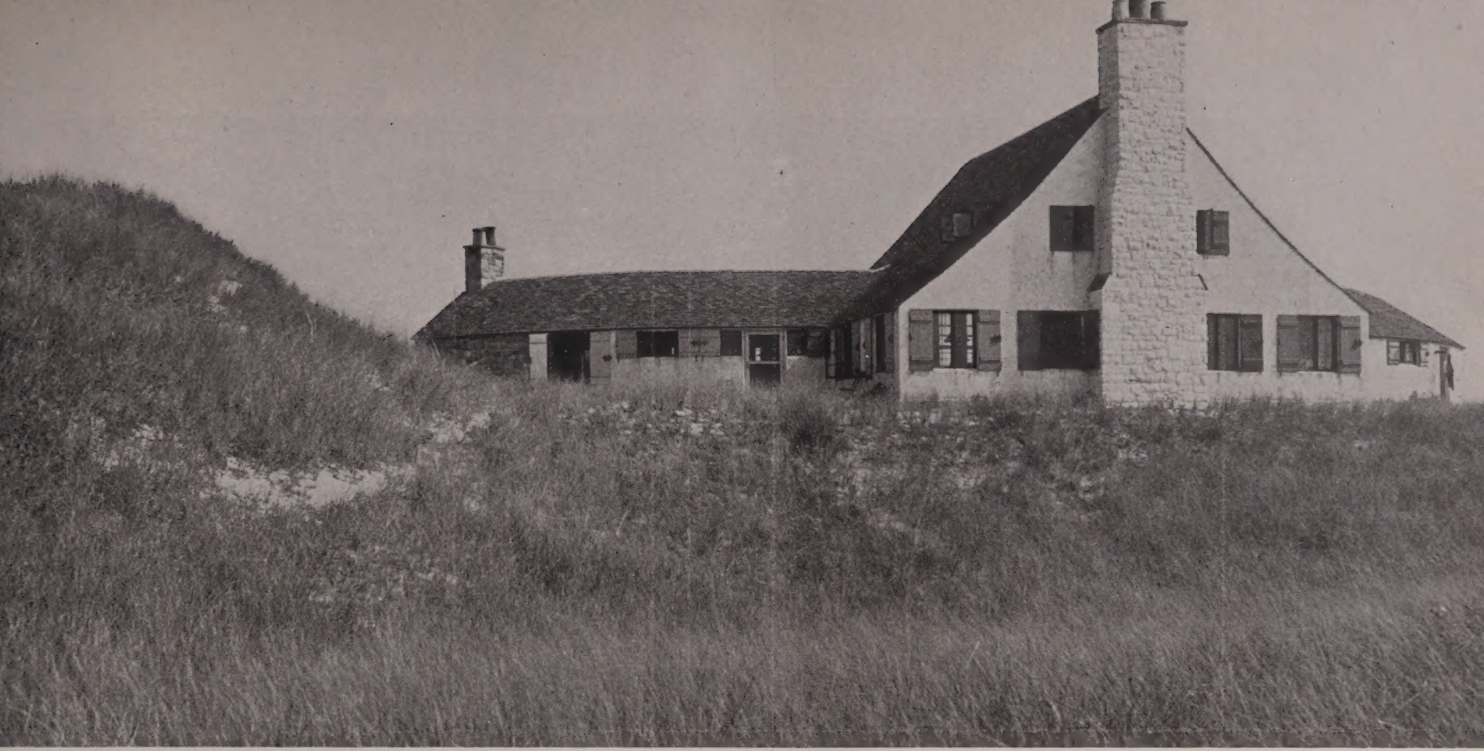

A door of oak with carved panels painted in Venetian red, white, and dark blue-green

Edgar Miller has received but little conventional art training. Born in Idaho, at fourteen he lived in Australia, at eighteen he spent a short time in the Art School of the Chicago Art Institute. Four valuable years of apprenticeship were passed in the studio of Alfonso Iannelli, another talented artist-craftsman of Chicago. A recent special showing of Miller's work in the galleries of the Institute demonstrated that his training and his gifts have sufficed to produce the extraordinary in decorative art, and let it be said that few possess such unerring instinct for the use of color. Daring or subtle, it pervades his works in a manner which unfortunately no halftone can suggest.

Through the modern pattern of Miller's art expression run threads of things seen in the South Seas, Central America, and our own West and Southwest. Often a fugitive mediævalism or a primitive classic spirit predominates. Memories of vigorous and lovely forms are stored in his mind, which will be called forth to colorfully glorify the buildings he will decorate, not superficially but under guidance of a constructive sense which is essentially architectural. Fortunate indeed are those who will collaborate with the greatly gifted Edgar Miller.


Above, a table carved in white oak, for Theodore Levine. Below, a balustrade in pine

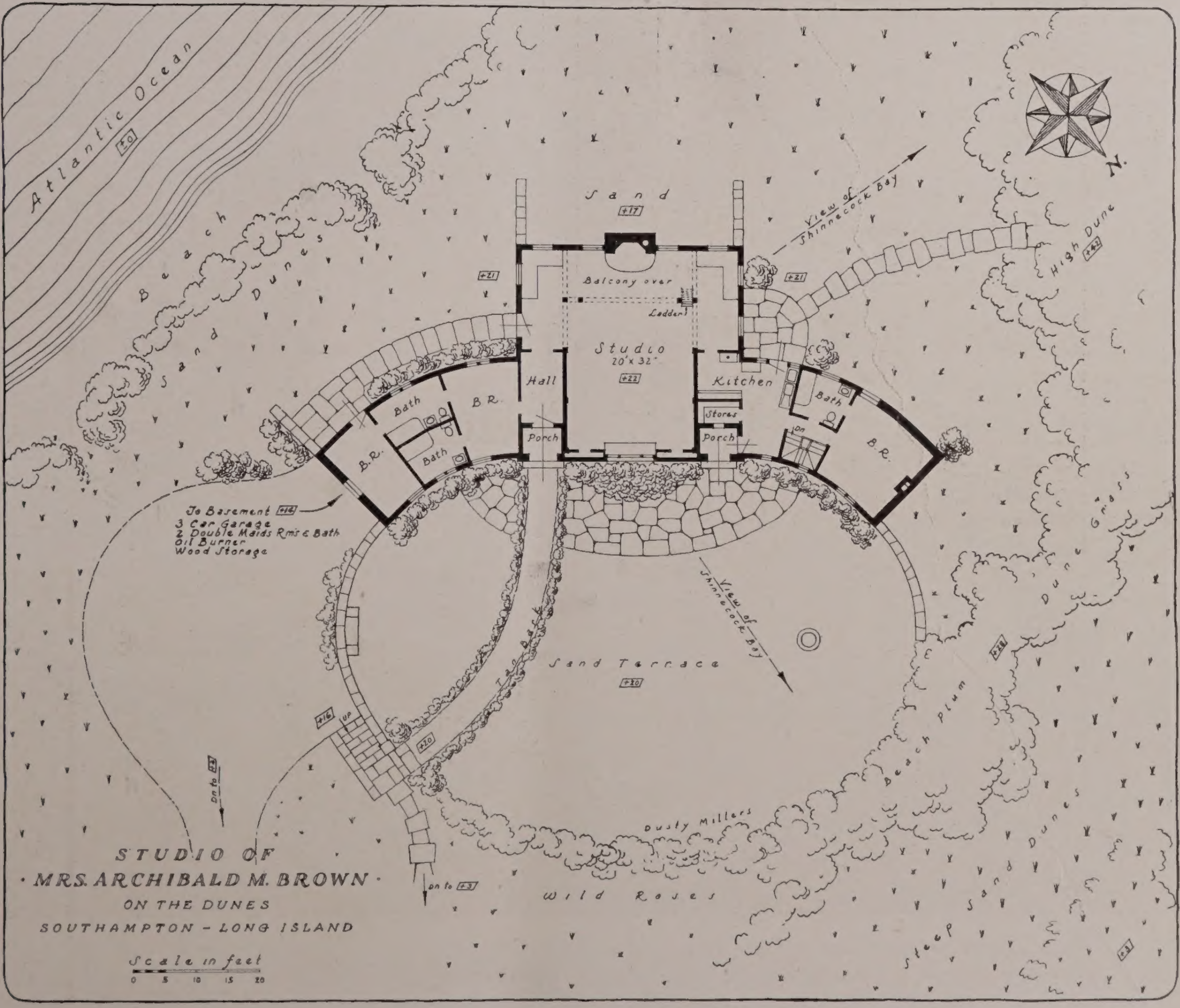


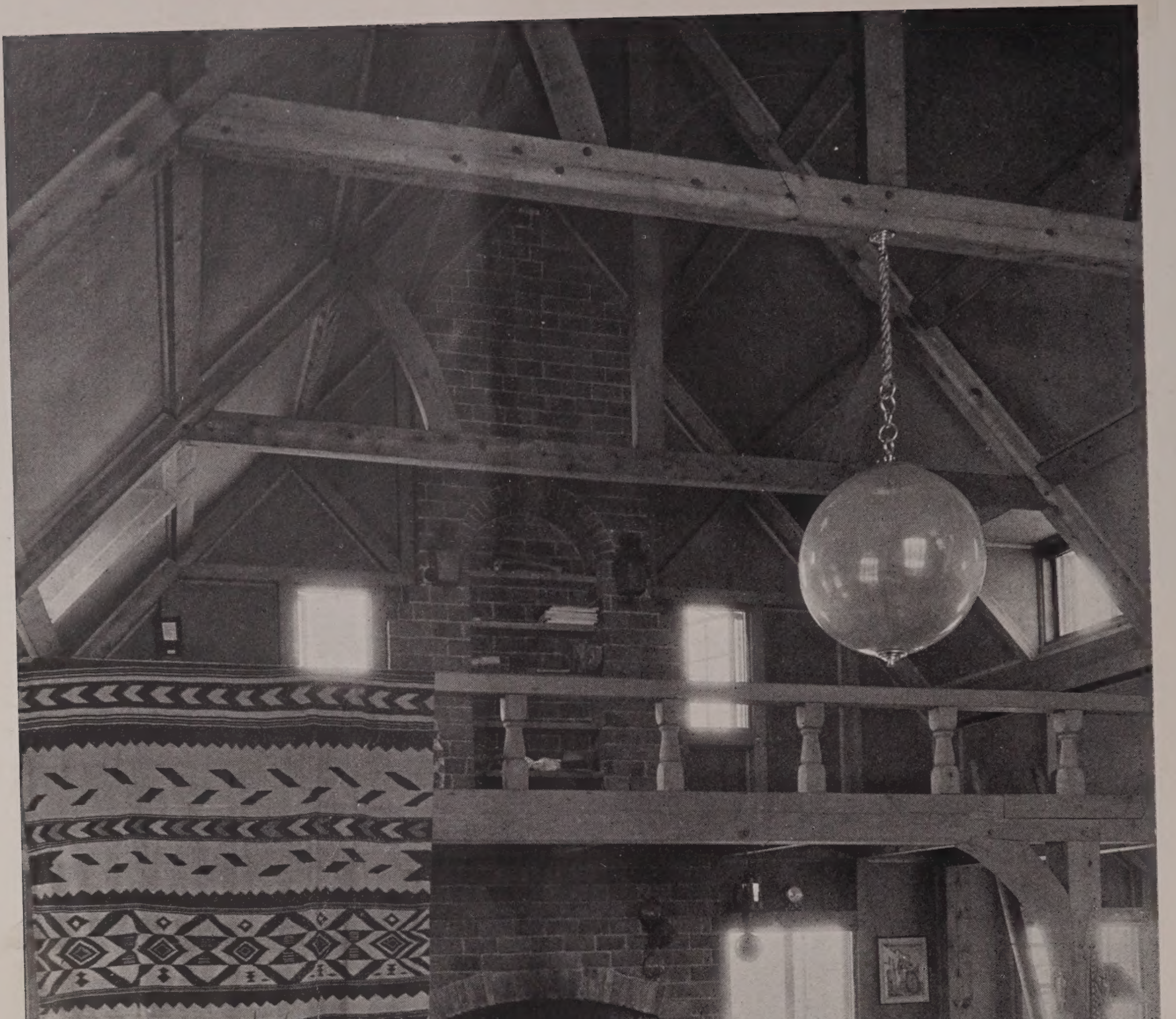


Photographs by Samuel H. Gottscho

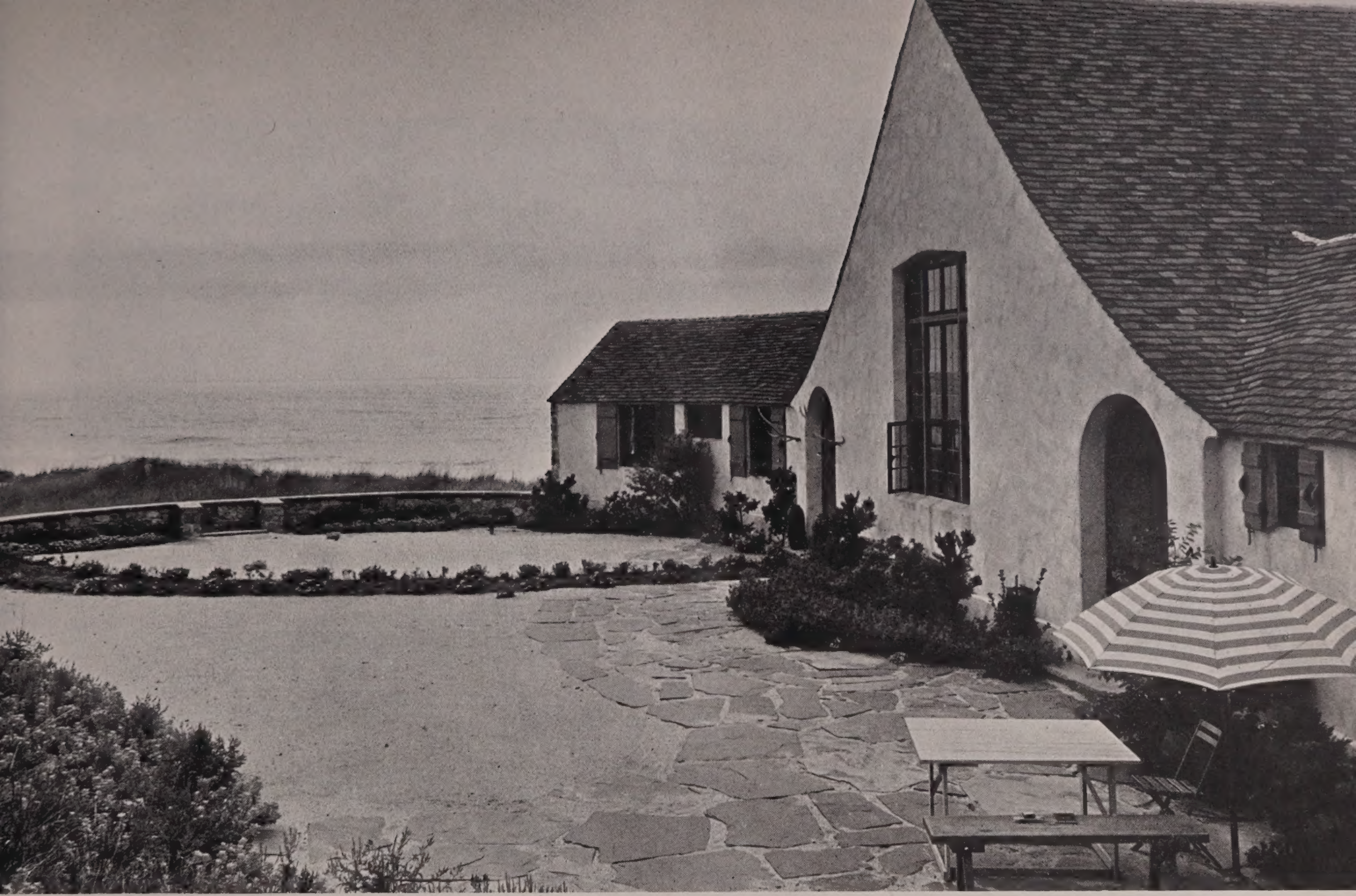
STUDIO OF THE LATE MRS. ARCHIBALD M. BROWN, SOUTHAMPTON, LONG ISLAND

PEABODY, WILSON & BROWN, ARCHITECTS

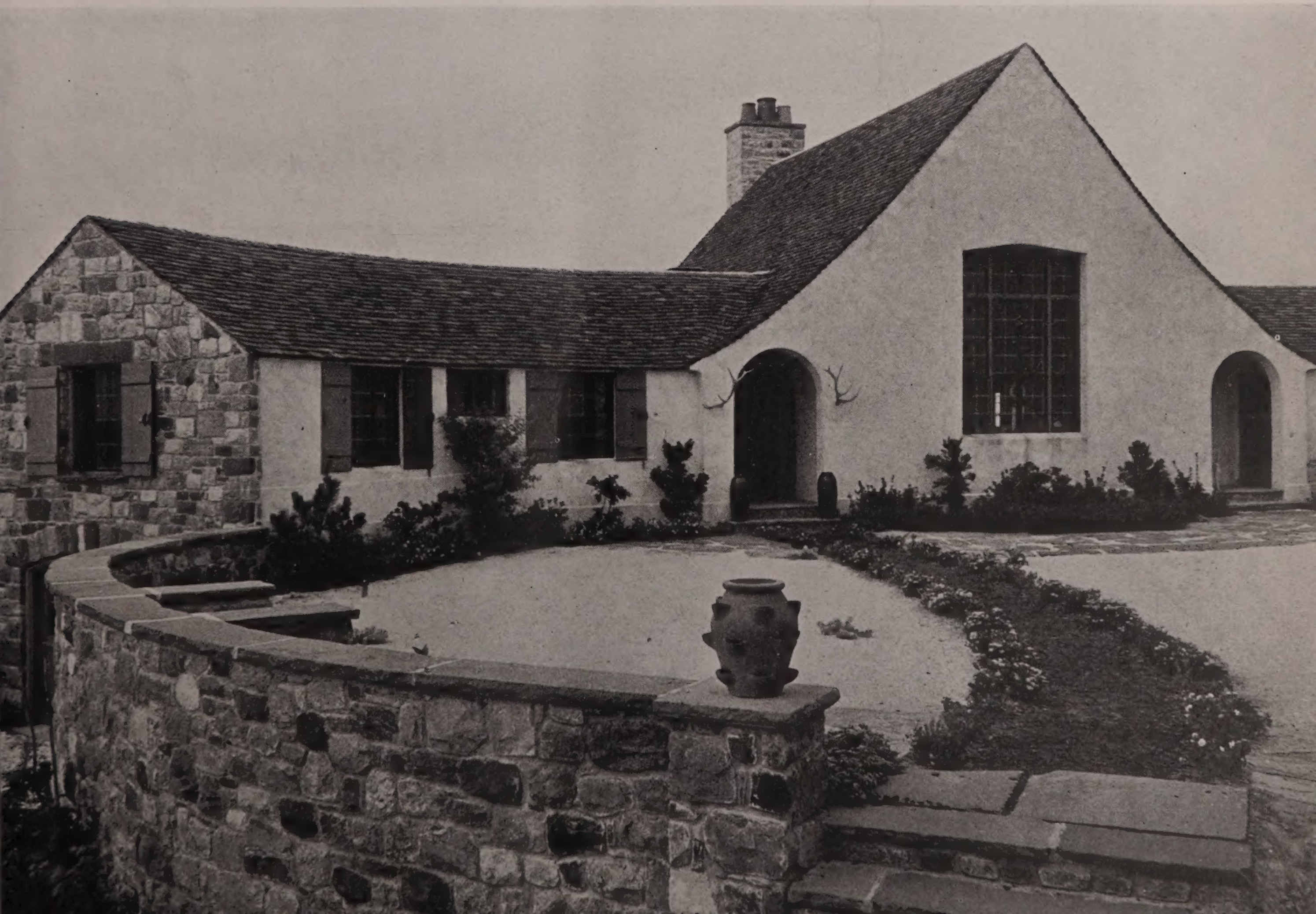


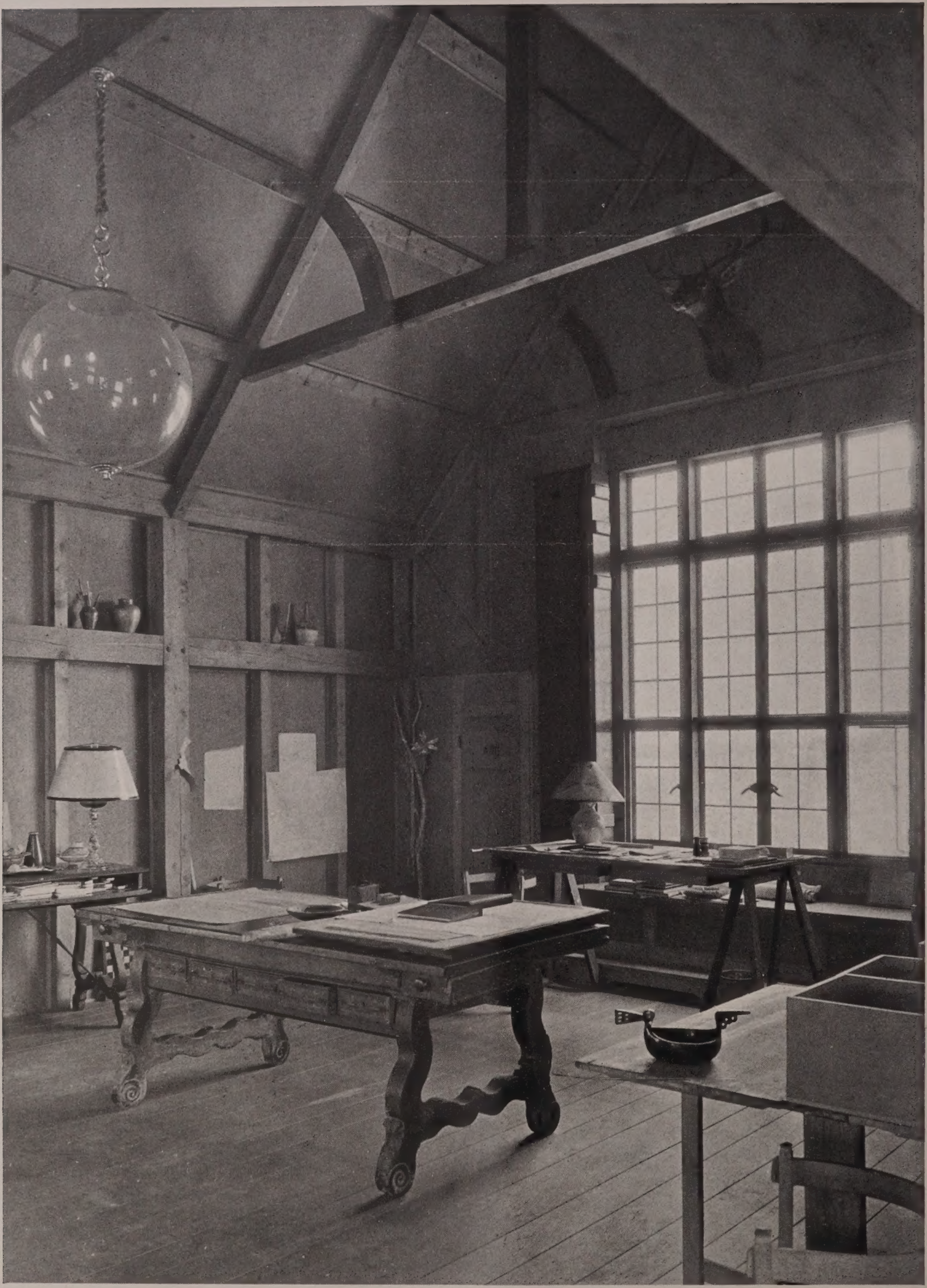


The studio opens up to the roof, the structural members being of pine and oak in a natural finish. Roof sheathing and wall sheathing are of a gray insulating board



The house is of stone and very light gray stucco; the roof of flat tiles in reddish tones. Some of the trim is green, other portions red

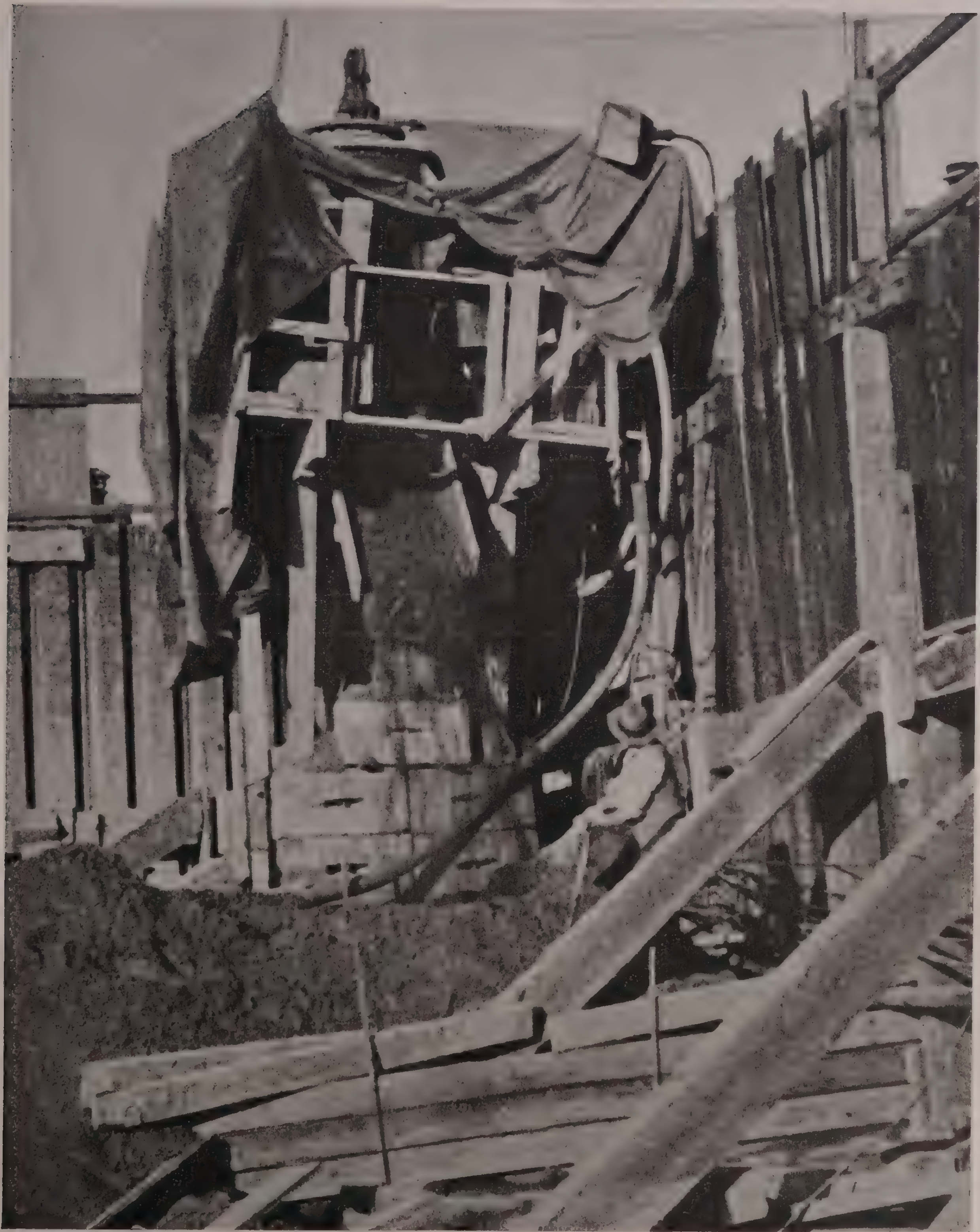




The furniture is early American, late Swedish, or anything else that is interesting in craftsmanship and color

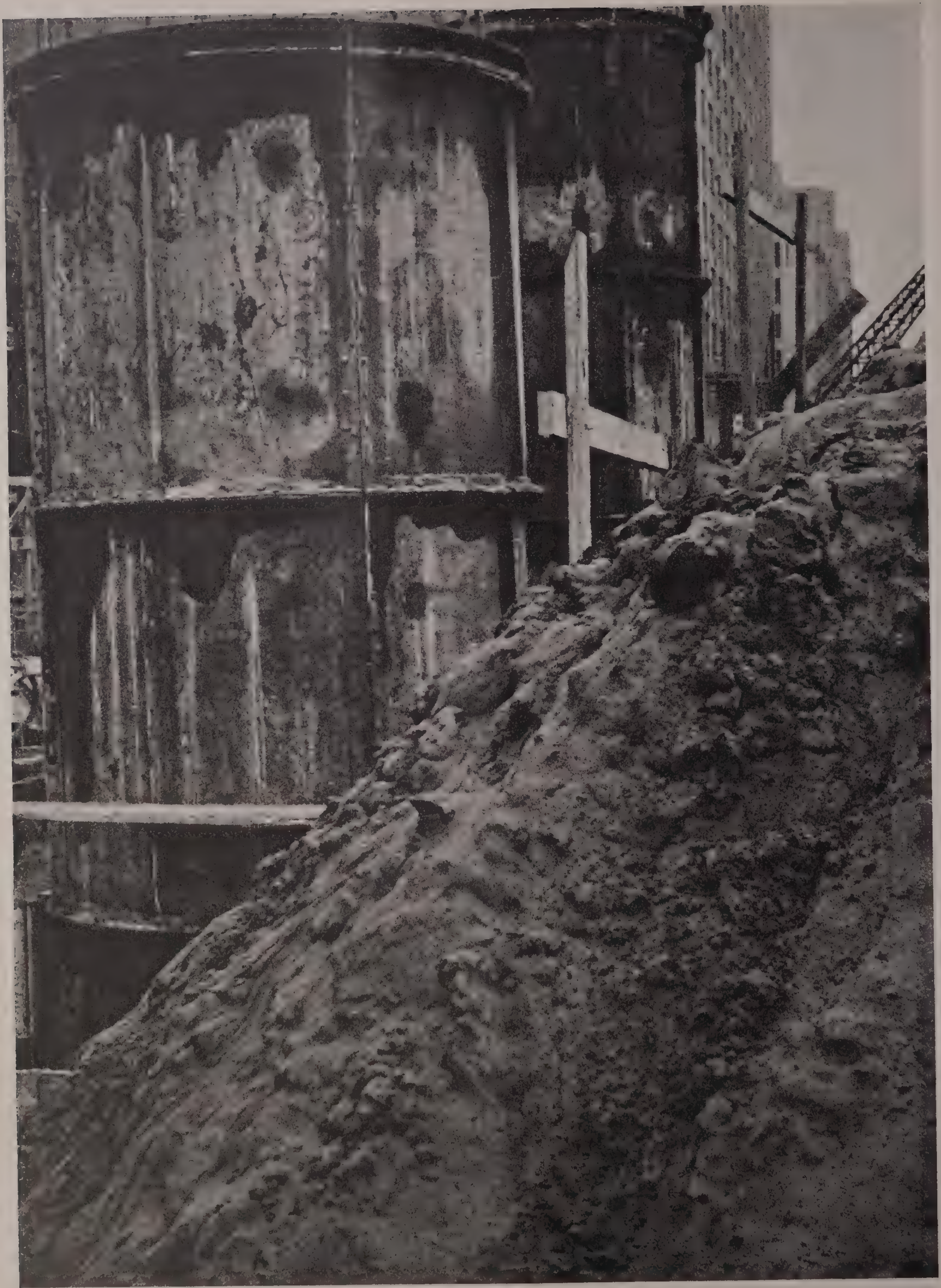
THE DRAMA OF BUILDING: II

A SERIES OF PHOTOGRAPHIC STUDIES BY JEANNETTE GRIFFITH WHICH MAY HELP US TO APPRECIATE THE STIRRING MAGNIFICENCE OF OUR OWN CONTRIBUTION TO THE HISTORY OF BUILDING



Jeannette Griffith

EXCAVATION BY CAISSON



Footings in Sand

Jeannette Griffith

On the opposite page, Drilling Rock

FOOTINGS IN ROCK *Jeannette Griffith*

Modern Architecture, Occupied

By Douglas Haskell

There has been a lot of talk about modern group housing, particularly that in Germany. Is it, as has been said, "a lot of glass filing cabinets placed end to end"? We see photographs of these buildings in their pristine freshness. Do they stay clean and efficient? Are they livable? The only way to find out was to go over and live in them. The author, with Mrs. Haskell, went over to put modern housing to the test. Here are his findings.—EDITOR.

THIS kind of project was one that required not a man but a man and his wife. We went abroad together last winter, and lived for a while in one of the new German houses. It was of the type illustrated in the architectural magazines as "highly modern." It was situated in the Römerstadt, which is a garden suburb of Frankfort-on-the-Main, where they have built some 16,000 houses since the war, of which the greater part are very similar to the one in which we lived. Our purpose was to find out what these houses were like for living in. We were not photographers out to catch the picture while the plaster was still fresh and pristine white. We chose rather to go where the photographer would have been five years late. We wanted to see the effect of the hand of Time.

We put the arrangements to a fairly thorough consumer's test. The lady, with her uncanny sense of efficiency, in due course of time had occasion to subject to use everything in the house, down to the laundry tubs; while I, fortunately having acquired a thorough German *in situ* during my youth, was able to put intelligent questions, both hers and mine, to some half hundred neighbors.

For such an approach as that, if I may say so, it was high time. Think what the usual discussion in our architectual press has been about! "Tradition vs. Modern." One architect warns against "throwing away the heritage of the past," and another urges "creating in the spirit of our times." Then all sorts of balances are struck between the two sentiments. Thus you can "create in the spirit of our times but retain a healthy respect for the achievements of the past," or you can "be inspired by the past without in the least copying," and so on. I defy any one to make all this mean anything to those who are going to live in the house.

On returning to this country, one of the first questions I have met is this: "How do the people take to the 'modern' style?" Cross my heart, I forgot to find that out! They never mentioned it themselves. One must remember that the bulk of them are simple people, of a sort for whom we in this country never undertake to build anything new. What they found in the new houses was, in the terms of their own thought, an astonishing degree of comfort, convenience, and pleasantness. With the sunlight pouring in at the large window, it was cause for only mild regret that the old curtains no longer fit; and as for the flatness of the roofs—cause of so much stylistic argument among architects—it meant mainly that no one could any longer come to live in a garret.

It was heartening to see such a response to the intentions of the builders. In planning the city, Ernst May had announced his intention of getting down to the fundamentals of living, and eliminating whatever could not prove directly accessory. The bugaboo never materialized that what the people will really demand is fancy tripe. My questioner, to be sure, has difficulty in believing this. When assured that the people liked to live in their new houses, he answered that of course there was nothing else for them to do. But this is factually wrong. We are likely in the United States to discuss "housing" as something entirely new, because we have had to pay so little attention to it in the past. But in a city such as Frankfort, for at least forty years construction has been going on that has been directly intended for people of modest means. All this construction still stands, as competition. And against all such competition the new, we found, is easily first choice.

Not that mistakes were not made—many of them. No one takes the present results as final. Not only the superb results but also the incidental mistakes can be instructive for us.

Orientation

First in importance has been the search for increased sunlight. It expresses itself in the orientation. The current method of placing houses is familiar, probably, to the reader. They run in rows north-south, but not exactly so: the "north" is really a north-northwest. This direction was based on calculations, done with models, on the hours of sunlight. Bedrooms generally face to the east (or, rather, a little to the north of it) getting the morning sun. These are working families that do not, or cannot, mind being waked up early. The *morning* sun in the bedroom is especially important to the German woman, for no one does more airing and sunning than she, with her eiderdown. At noon, when the sun is hottest, a minimum of direct rays enter the house. Early in the afternoon the sunlight commences streaming into the living-room. The sun-day there is longer than on the bedroom side.

This orientation, the best yet achieved, is the norm, yet it entails one difficulty. The longest shadows thrown by any object fall, as every one knows, in the morning or evening. These long shadows therefore fall west or east. And in the orientation we have described, the houses, in parallel rows, lie to the east and west of one another. Hence if the long morning and evening shadows of one house row are to be prevented from falling on the neighboring rows and thus shortening the period within which these neighbors receive unobstructed sunlight, the rows must be spaced fairly widely apart. This does not apply to house rows run in the opposite direction, east-west. Here the shadows of one row do not commence to fall in the direction of the next row until later in the day, when the sun, on its way south, has already risen considerably higher in the sky, and shadows are shorter. The rows can be placed nearer together. A whole group of studies arises in this connection, which can easily be carried out by any architect with models.

What does *not* enter the calculation is whether the house when it properly faces the sun faces the street also, and whether a banker refuses to lend on it because the street is honored with only the minor rooms. The street is built for the house, not the other way around. Certain innovations of this sort are possible in large-scale operations for people of limited income, innovations which an architect is all too likely to forego for lack of imagination, accustomed as he is to "own-your-own-home" prejudices.

The street, in point of fact, generally runs at right angles to the house rows; you approach your own house by a footpath or a small delivery street. The problem of automobile traffic or extensive parking has not been a heavy one, and remains to the future. The people of Frankfort have been getting houses while ours have been getting cars.

Pictures of the house rows sometimes indicate monotony. But, seeing the houses themselves, one is not so offended by the sameness. The effect of sameness is only relative: thus in a row of Philadelphia middle-class houses it is unfailingly dreadful, all the more so on account of the pitiful efforts to escape it; but in a row of racing sailboats the sameness is a delight. Little jogs and variations made for the sake purely of picturesque variety, entailing extra plans, delays, and money, would only have diverted capital and energy from the more urgent requirements of more buildings, space, and land.

"Doubtless policies such as ours have to be one-sided," once declared Ernst May, "for many-sidedness and deviation would result in loss of character and weakness." Fine bread is preferable to spotty cake; and bread is the need right now!

Legitimate differences do arise from adapting buildings to land contours, from turning them toward an occasional fine view, and from juxtaposing groups of different types. And another observation: Take houses of the utmost regularity and utmost mechanical finish but not over three stories high, and set them behind a strip of grass and in front of an adequate garden, and you are certain to have a result more charming and humane than if you build at a height of five or six stories, in any economically feasible manner whatever, with all the architectural "individuality" and "warmth" in the world, and with the most expert landscape gardener for your yards. It is piling people up that depersonalizes them.

Perhaps the deepest impression in the whole of Frankfort is made by the gardens. The people actually work in them. They grow roses, but they grow more cabbages. Their children grow up with a saving touch of intimacy with the soil. It's the touch of the soil that the children of city dwellers need, not the remote view of it, however magnificent.

~

Windows

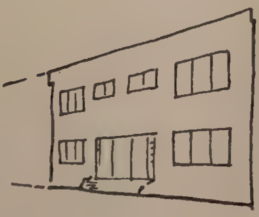
Nothing is more typical in the illustrations we see of modern German work than the ribbon window, unless possibly it is the balcony. Yet the typical *Siedlung* or development is far from being all glass. In fact, we can follow a certain evolution, which is very interesting. At first no difference was noted by the designers between the two sides of a house. All the windows were small. This was to be seen at Praunheim, in the early part of the development (1926). Why the tiny cottage window should so infest central and southern Germany, no one can tell you. The "climatic" reasons given are, as usual, nonsense.

After the arrangement of small windows all around, came larger ones, grouped. That's the Römerstadt. Frau B's house, in which we were guests, had a living-room with a single large light; the parents' large bedroom upstairs was nearly the same. This house was built in 1927–28. The first section of the Friedrich Ebert *Siedlung*, however, built in 1929, showed the ribbon window fully developed, on both the living-room and the sleeping-room sides. Though the apartments here measured very little more actual area than those with a corresponding number of rooms in Sunnyside, New York, they seemed far more spacious, by virtue of the light. All the pictures I took in them were spoiled by the unappreciated intensity of the light!

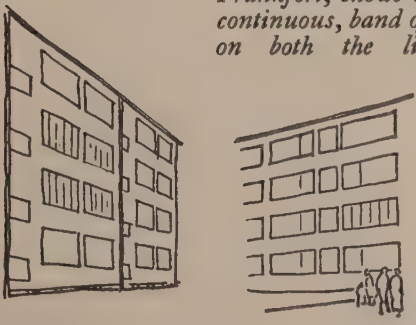
It was here that factors other than those of light began to count. The people were desperately poor. The economic crisis had come. They needed to conserve every thermal unit of heat. Both the central heating plants which served entire developments, and central heating for individual households, had already been displaced by individual stoves. This was not because the stove was better—far from it! The objection to central heating was that the saving effected, per unit of heat delivered, was more than offset by the fact that people commenced to use a great many more units. They fell prey to American "vices." They left the heat turned on in rooms not in use, or opened a window instead of turning off the radiator. Their only crime, in short, was that they drifted into a higher, more wasteful standard. So back they had to go, to stoves, cold walls, and bedpans.

Worse than that, to break a pane of glass became a calamity so great that the whole *Siedlung* was obliged to share the burden of unlucky victims through insurance, collected with the rent. Large window areas, both on account of their heat loss and their glass, had to be cut down. It was now discovered that there is a difference between the social side and the rest side of the house. The living-room light remained single, nearly full room width, and deep; but the bedroom windows were again made as small as they had been when the whole movement began. They were to be used chiefly for ventilation.

So long as present construction methods



Above, Praunheim, an earlier Siedlung, *is typified by the small cottage window. At the Römerstadt, below, the windows are large and grouped into a single light for each room*

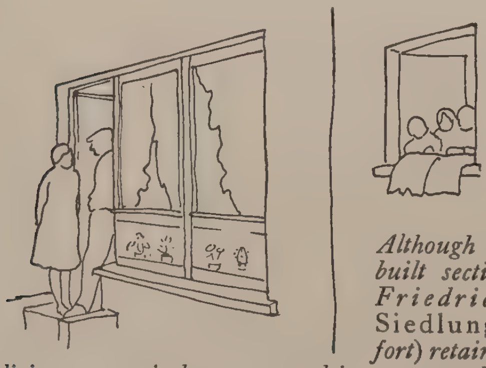


The Friedrich Ebert Siedlung, *Frankfort, shows the large, almost continuous, band of ribbon window on both the living-room side (shown at the right) and the sleeping-room side (left). The only interruption is for stair halls. But bedroom windows need not be so large* prevail, the differentiation giving large lights on the living-room side and small ones for the bedrooms seems very sensible. It was achieved only in the course of evolution through what we would call those "theoretic extremes" which are so indispensable to progress. The old many-paned mullioned windows, two or three of them to a room, separated by dark strips of wall, and all of them "vertical" because that is the tradition, simply ruin rooms which our first-class planning should have rendered delightful. And what a job those muntins are to wash!

Here is a summary of the evolution I have described:

1. Small windows throughout.
2. Large windows, gathered into a single light area for each room, on both sides of the house.
3. Large windows, practically continuous, both sides.
4. Living-room has a large, single window area; each bedroom its own window, small.
5. Still needed: a material better than glass, giving visibility without either losing or piling up heat; design and construction permitting the separation of the functions of ventilation from those of light and view.

What the inhabitants did with the windows they were given was of course a matter of their own training and taste. The older folks pushed in on the glass area from both sides with their old-fashioned *Gardinen* (plush side curtains), and in the centre excluded all of the remaining light they could by every variety of lace. The younger people appreciate the new opportunity, and are reducing their hangings to what is necessary only to avoid glare and to secure privacy. It is well for an architecture to be flexible enough to leave the old generation decently comfortable while opening the way for the new.



Although the last-built section of the Friedrich Ebert Siedlung *(Frankfort) retains the large living-room windows, grouped into one excellent source of light, the bedroom window, for economy's sake, has been reduced. Hence the living-room and the sleeping-room sides of the house are now differentiated*

Plans

It took considerable comparing to establish the fact that at their best the German interior plans and ours are very similar. The definite impression at Frankfort and Berlin of greater roominess arose from the better fenestration, and from the absence of trim and moldings.

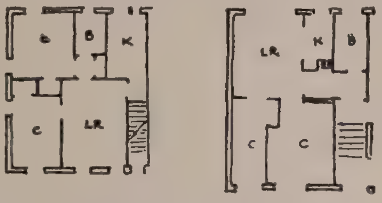
Not that the rooms were always uncrowded. The average German family is loaded down with heirlooms, and the moving-van it uses when it has to move them looks like a freight car. The chief encumbrance is a huge wardrobe, with bellying surfaces of veneer, that reaches nearly to the ceiling and fills the whole entry hall if not half a bedroom. The substitution of simple built-in closets is arriving as an American idea, in quarters built for rent. Where houses are for sale, however, the authorities have omitted closets so as not to "interfere with the freedom" of the owners to install their own favorite inherited monsters.

Another custom that dies hard is the dining-table in the centre, taking up all the room. Eating and drinking, before the depression, were an important German home occupation. Efforts of the architects to lure the table to one side of the living-room by placing the overhead lighting outlets there were of little avail. The tenants ran extensions to the middle of the ceiling, where such things belong. Only the younger people take to the new idea. One does not exactly wish the older ones bad luck. Once the sacred table is gone from the middle of the room, the space thus gained is likely—as these things are done everywhere in our century—to be squeezed out altogether by the next enterprising space saver on future jobs.

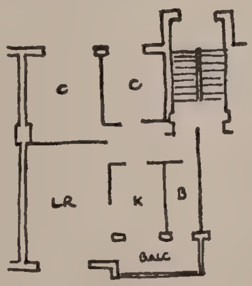
Furniture of all periods, dragged in as it is by the occupants, works better in rooms with absolutely blank walls and floors, and painted doors, as the German *Siedlung* has them, than against any panelling or mild Colonial. There is less chance of conflict. The results, however, are astounding. You see many of the pieces for the first time as they really are. Grotesque carving or fancy inlay swaggers doubly against the simplicity.

As things now stand on the Continent, Frankfort made a great stride when she insisted that every household be provided not only with a toilet but with a bath, a real tub, though in some cases big enough only to sit in. Vienna still sends her people to the public bathhouses. These are marvellous; but human inertia being what it is, I would bet on the people of Frankfort to take more baths.

Less objection is raised there than here to people crossing the living-room to reach the toilet. The Continental takes his natural functions naturally. The German designer seems by preference to put his bathroom in the corner off the entry, next to the kitchen. This position has a double advantage. Putting bathroom and kitchen back to back, of course, saves on plumbing, and bathroom noises do not reach the living-room through the hall. If there are two or more bedrooms, then (*a*) everybody going to the bathroom crosses the living-room, or (*b*) one bedroom has separate access across the hall; only rarely (*c*) can occupants of both bedrooms avoid the living-room on their way. All bathrooms have outside exposure. (See diagrams herewith.)

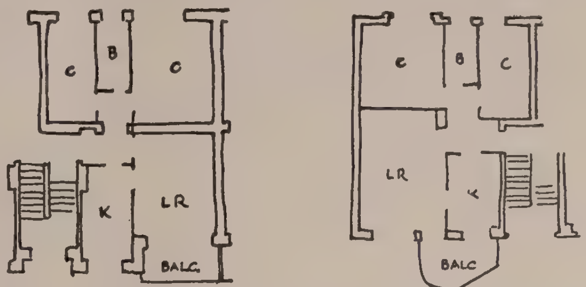


A favorite American plan type and its German counterpart. The first plan is from Sunnyside, New York. The bath is directly accessible to one bedroom; no need to cross the living-room. There are built-in closets. The second plan is from Frankfort. The bath is in the corner off the entry, where its noise is minimized. Cloak-hangers in the hall prevent the door of the large bedroom opening into it for direct bathroom access. Both bedrooms get direct cross-ventilation through the living-room. The narrow children's bedroom is long enough for two beds end to end. Window arrangement is superior

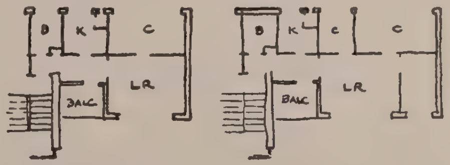


An ingenious attempt to keep kitchen and bath together, retaining the bathroom in the corner for the purpose of isolating its noise, and still making it accessible to both bedrooms without the interposition of the living-room. A. Forbat, architect. (*Siemenstadt, Berlin*)

The completely standardized and quite famous "Frankfort kitchen" is remarkable in that its excellence is *uniform at the economically possible level.* No fancy electric gadgets could be budgeted. But there was not that ubiquitous New York phenomenon, a kitchen with expensive electric refrigeration, and then neither room for the worker to turn in nor any ventilation. The German plumbing and wiring in general, on the contrary, could merit no such praise; and I omit description here because, although the lady's adventures with it were tragi-comic, there was nothing about it from which the American designer as such could derive profit. As for the laundry, the German woman has decided in advance that it is a terrific job, and neither she nor her architect displayed interest in the most obvious labor-saving arrangements the lady proposed, even though they entailed absolutely no additional cost. The wash is done in huge quantities, let it be explained, once a month or once in six weeks. In the Praunheim *Siedlung* the women used a central laundry built in connection with the central steam plant.



Two uses of the same idea, the first by Walter Gropius, architect; the other by H. Häring, architect. Kitchen and bath across the hall from each other. Bath correct for bedrooms, and away from living-room. Window arrangement in German plans is generally superior. Windows extend nearly full width of living-rooms; in bedrooms they protect the head of the bed from direct draft



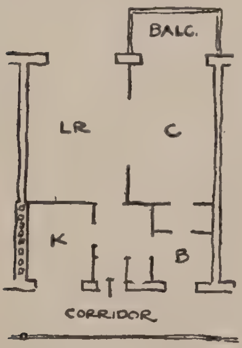
Rothenberg Siedlung, *Kassel; Otto Haesler, architect. A sumptuous plan to build and to maintain, with its huge ratio of glass to floor area. The room arrangement is not strikingly convenient*

In Germany as here, houses and apartments become less attractive when narrow and deep, so that, for the average, a depth of not much over thirty feet from front to back has seemed to work out best. Among individual rooms, on the contrary, there is a tendency to squeeze the second bedroom into a long, narrow cabin shape, placing two beds end to end, to gain added width for the adjoining living-room; and this device appeared to be excellent. The children have plenty of play space elsewhere, in the kindergarten and in the yard.

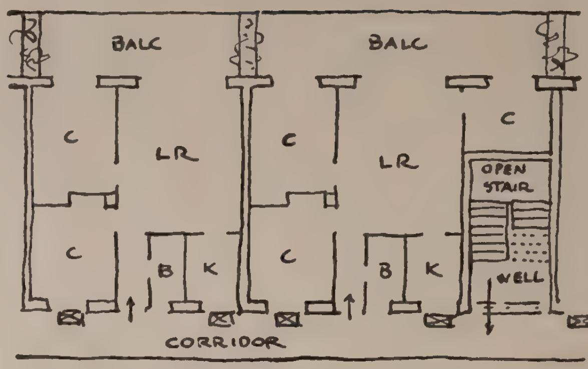
Outside-corridor Types

Outside-corridor plans for multistory buildings seem to be decreasing. The outside corridor is not a new invention, as often thought; it has a long history. It was imported into the northern countries by traders, as an imitation of the courts of Italian nobles. It underwent the most astounding mutations, ending as a stinking hallway along the interior light courts of miserable Berlin tenements, leading past all the open kitchens to the only toilet on each floor. It has now been reincarnated as "modern."

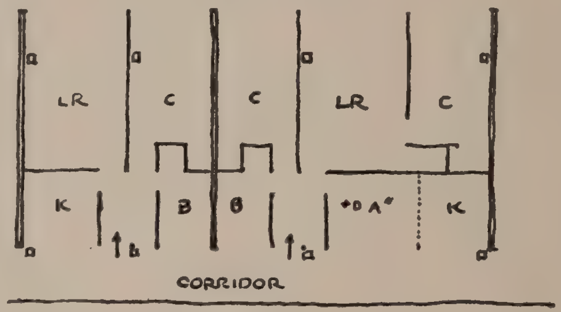
Sometimes the outside corridor can be ingeniously used. It allows perfect cross-ventilation, and it makes for fewer stairs; what is more important, in the case of a high building, fewer elevators. The question is whether the building that requires it is not in itself unsound. But this is a diversion. The objections of the actual tenants were that the hall was sometimes noisy, decreased the sense of privacy, and darkened the rooms that fronted on it. (The windows were either provided with frosted glass to keep passers-by from looking in, or placed up high, where they were in the darkest shadow of the overhanging corridor next above.) This darkening and noise did not matter so much when the rooms in question were only the kitchen and the bath; but the children's bedroom usually had to be on that side too.* The cleanliness of the corridors was due to German custom; for our own part, we would have to develop far beyond our present habits of anarchistic and sloppy individualism in order to have community planning of any sort at all, let alone common corridors!



The outside-corridor scheme is best suited to a unit of this size. with single bedroom. This particular example is at Frankfort



Outside-corridor plans. Above, at Westhausen Siedlung *in Frankfort, with both corridor and balcony. An economical layout requires that the second bedroom go next to the corridor, a disadvantage of the type. In the project below, by Howe & Lescaze, for New York City, putting the second bedroom away from the corridor has been wasteful of space. The "dining alcove" will often actually be a bedroom in use. The handling of doors is ingenious*



In the *Siedlungen*, we encountered no rooms encumbered with steel posts as a result of cantilevered walls, and decided that this result of a halfway stage in construction was a fashionable luxury of people of greater means and large rooms with space to spare.

Construction

In the construction the people inhabiting the houses were of course not much interested. Frankfort did, however, make a valiant attempt at prefabrication. The locality has deposits of a porous pumice which makes an excellent concrete. Precast slabs were lifted into place by large cranes travelling on tracks laid along each house row. At one time twenty-seven houses were said to have been finished in the rough in four days' time. Unfortunately a check-up, made by the *Reichsforschungsgesellschaft*, a sort of bureau of standards for the building industry, cast doubt on whether any saving at all had been effected over the cost of building in brick. This was no condemnation of the principle of factory production; it simply showed that it had not yet been worked out. We in the United States have a far better opportunity now, with standardization further advanced, than Frankfort had.

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* In the ingenious plans of Howe & Lescaze for Chrystie and Forsythe Streets, New York, the small room next the corridor is called a "dining alcove." It would certainly be used more often by the occupants as a bedroom.

The flat roof was a bone of contention among theorists there as here. I noticed this: cost estimates, whether favoring the pitched type or the flat, seemed to correlate more closely with the individual architect's æsthetic conviction than with anything else. It must be noted that the flat roof abroad is unbroken by party walls: it is really a continuous sloping roof of very slight pitch; this of course considerably lowers the cost. The fire hazard *would* be greater than ours if we actually lived up to the pretensions of our building codes; but as it is, what right have we to speak of fire hazard, when we with our "regulations" regularly burn up three times as much stuff as they do without? In this connection, it is interesting that Ernst May, as city architect, was also director of the "building police," and in that capacity able to remove silly building code obstacles from his own path.

The characteristic flat finish of the new houses puts workmanship to a severe test. Even in Germany it is often distressingly streaked and marred; one shudders to think of it in the Bronx. Extremely shallow reveals and scant overhangs caused bad staining of the earlier houses. Timid architects reverted to deeper reveals, but the more determined devised metal sills with better drips, keeping the main part of their advance.

Rent

Herr and Frau Bauer, Werner, and Schmidt, do not live in a paradise of low rent. For an instance of that, we should have to go to Vienna, and to another story. In Frankfort or Berlin, Frau Schmidt has to worry, as does Mrs. Smith in Chicago or Detroit, about the rent. An extensive article appearing about a year ago in an American business men's magazine gave the contrary impression; but that was because the rents were given in terms of American dollars and nothing was said of wages. It is rent in relation to income that counts. No complete accurate figures were to be had. For the thirty-odd families of whom we inquired, the rent averaged between twenty and twenty-five per cent, including heating. This is high, about as high as the ratio found in Pittsburgh by the Buhl Foundation for an equivalent income group. The difference is that these German families live in immeasurably better homes than the Pittsburgh ones, with fresh air, sunlight, and gardens.

All calculations are thrown topsy-turvy by the unemployed. Here are some typical 1931 cases: Family of three, monthly rent $13, balance left over for all other living expenses, $20; family of five, rent $13, everything else $14.50; family of four, rent $11, everything else $14. These were not the worst. With increasing misery, the poor people are being obliged to move out of a great many of the new houses that were built during 1926–29, and were calculated with reference to the future as it looked then. Only the very latest structures, built with brutal economy and subsidized to the hilt, are still available to the lowest-income group. And even there the city has plenty to worry about, because at the time of my last visit the latest *Siedlung* was occupied seventy per cent by the unemployed, who might at any time organize a rent strike.

Land and construction, the great planner May was able to conquer; but he could not conquer money. Germany paid for American capital at rates so exorbitant from any normal standpoint that, counting discounts, a virtual eight or nine per cent and better was being given by cities on their borrowings. A reduction of one per cent in interest charges, it was calculated, could have been translated into a six per cent reduction in the rent. This is no place in which to describe the complicated system of subsidies. It is painfully evident that everywhere in the world the greatest present obstacle to prosperity lies in finance.

The Flat Roofs of Westhausen

I have said that the inhabitants care not at all about "architectural style," and that is true. The thing that binds them is much stronger.

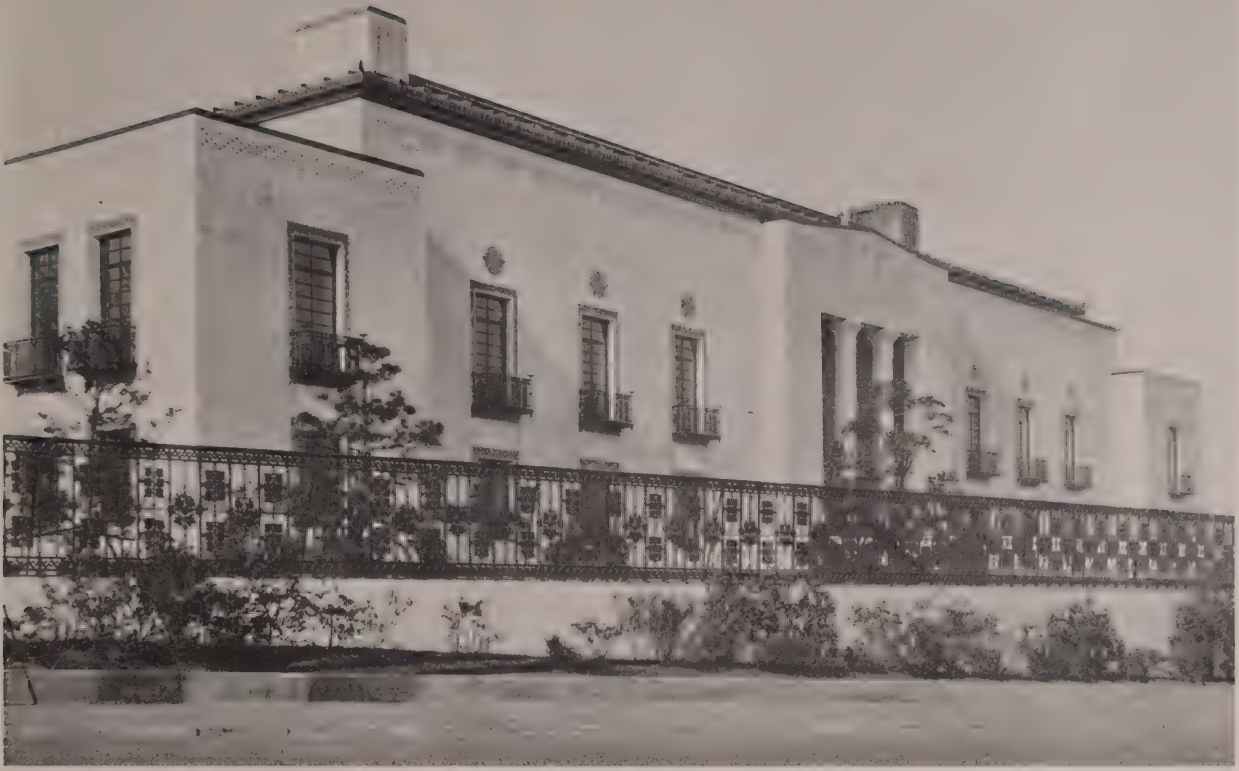
We stood on a balcony and looked over the flat roofs of Westhausen. I for one knew enough to know that technically the question of flat roofs was moot. The man who guided us, for his part, knew how much more than just the slope of a roof remained to be solved. But the lady was struck. So were we all. Here, before us, at a single level, stretched a whole village, a whole garden town. Fifteen hundred homes in this one group, and, directly behind them, in the same line of vision, twelve hundred more, belonging to the next *Siedlung*, Praunheim. All soldiers in uniform. All in straight rows, flat-topped, with long lines of white wall, or red, or blue, in their green gardens; behind them the gentle outlines of the mountain Taunus. What cool, fresh air, as the mists began to rise for sunset! What an idyll of peace! Here was no jagged "skyline" tearing itself to pieces over melodramatic canyons of unrest. Here were none of the freaks: the queer chimneys, crazy dormers, foolish alcoves, and poxed plaster of the speculator. All such overtowering ambition and corrupt contentment was behind our backs. There had been a clean sweep. Everything had been done for the clean sweep; even much that had been intrinsically beautiful had been denied, that it might not cloud the eyes.

The people who lived in these ranks closed for the sake of strength were a little grim about keeping the peace they had. The straight lines coincided with their mood. It had been too costly to be frivolous. It had cost blood. There had been a revolution.

Whoever does not understand this does not understand the spirit of the venture in any respect at all. The progress was not made by virtue of good-will, generosity, or even the enlightened self-interest of anybody else. It was won by the workers, by force, and is held when held by the threat of force to be used once again.

The building was done for workers, and by the most modern "technical" methods of work: that is, doing the most for the most with the least: methods direct, accurate, at a high level. In all three of its aspects: the social, the political, the technical, the revolution is now at a pause. Just what the next development will be, none can tell. We can say only that looking back won't do. No design of middle-class cottages. The people have accepted the work of their architects, together with its gestures, because they have had confidence that basically it was in their spirit. The blossom will come later; but even with its present strain of grimness the new is ever so bright and promising.

St. Michaels, Charleston, S. C., from the pen drawing by Edward M. Schiwetz

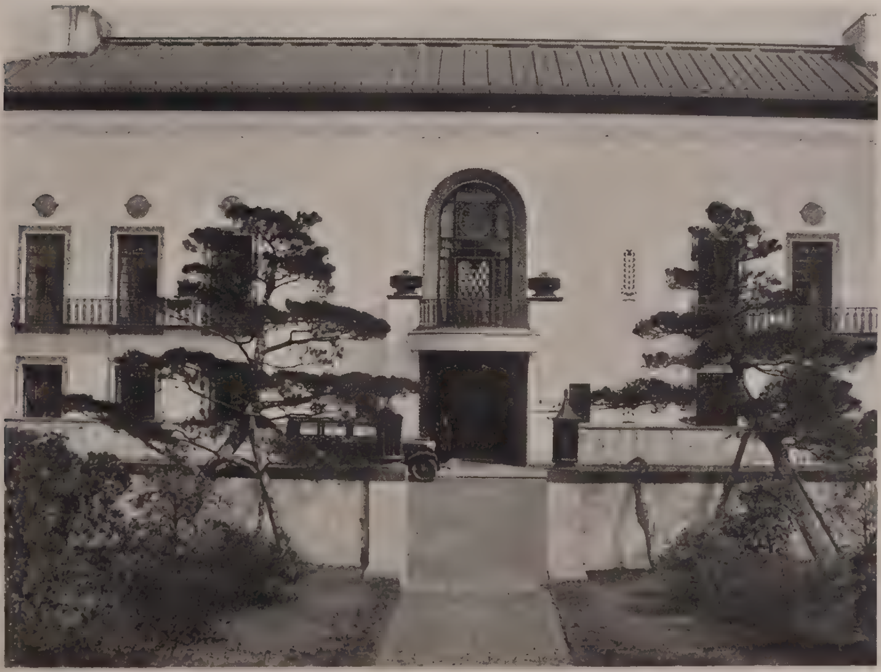


Northeast façade of the Chancery, facing the city

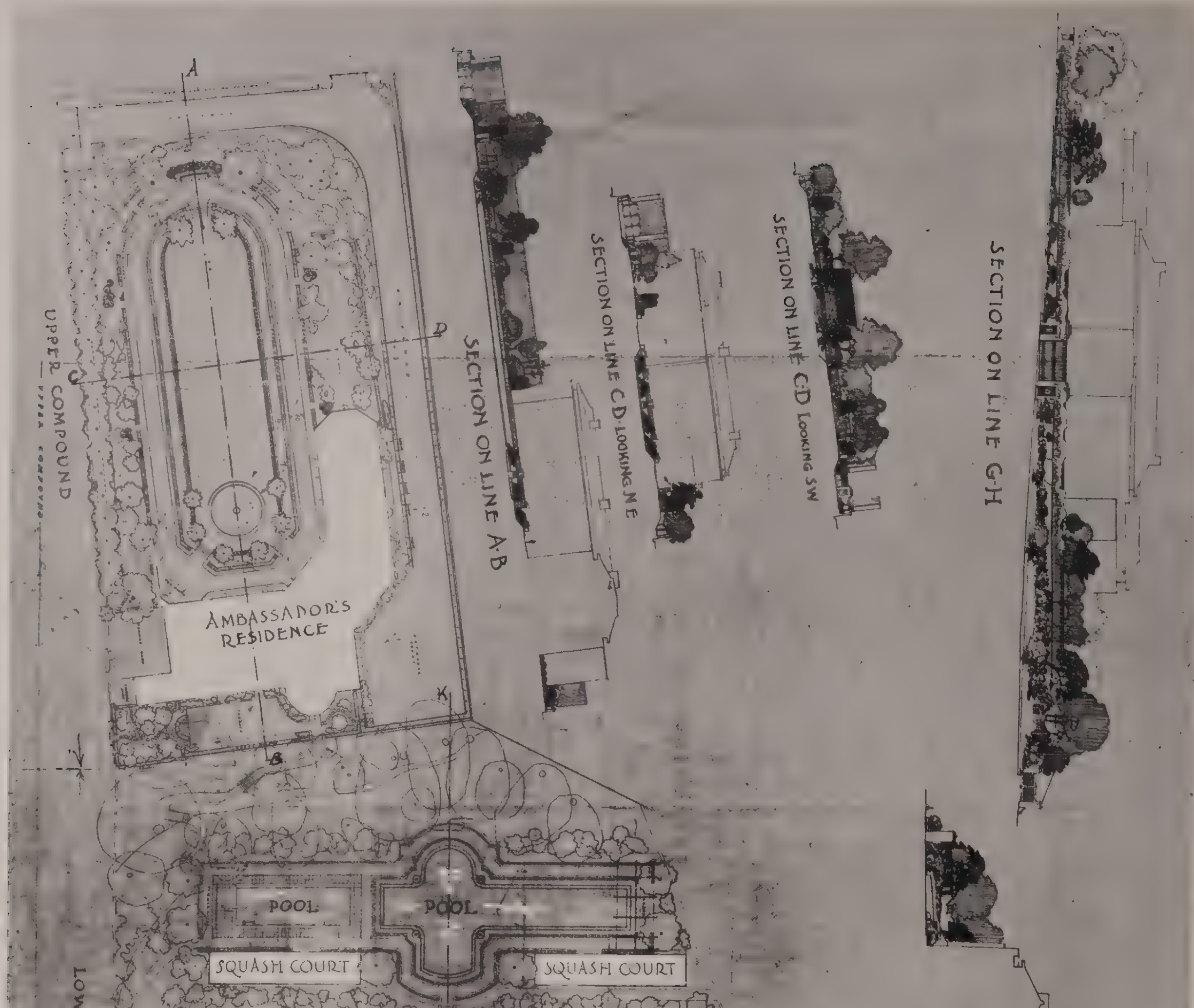
Diplomatic and Consular Establishments of the United States in Tokyo

H. VAN BUREN MAGONIGLE, ANTONIN RAYMOND

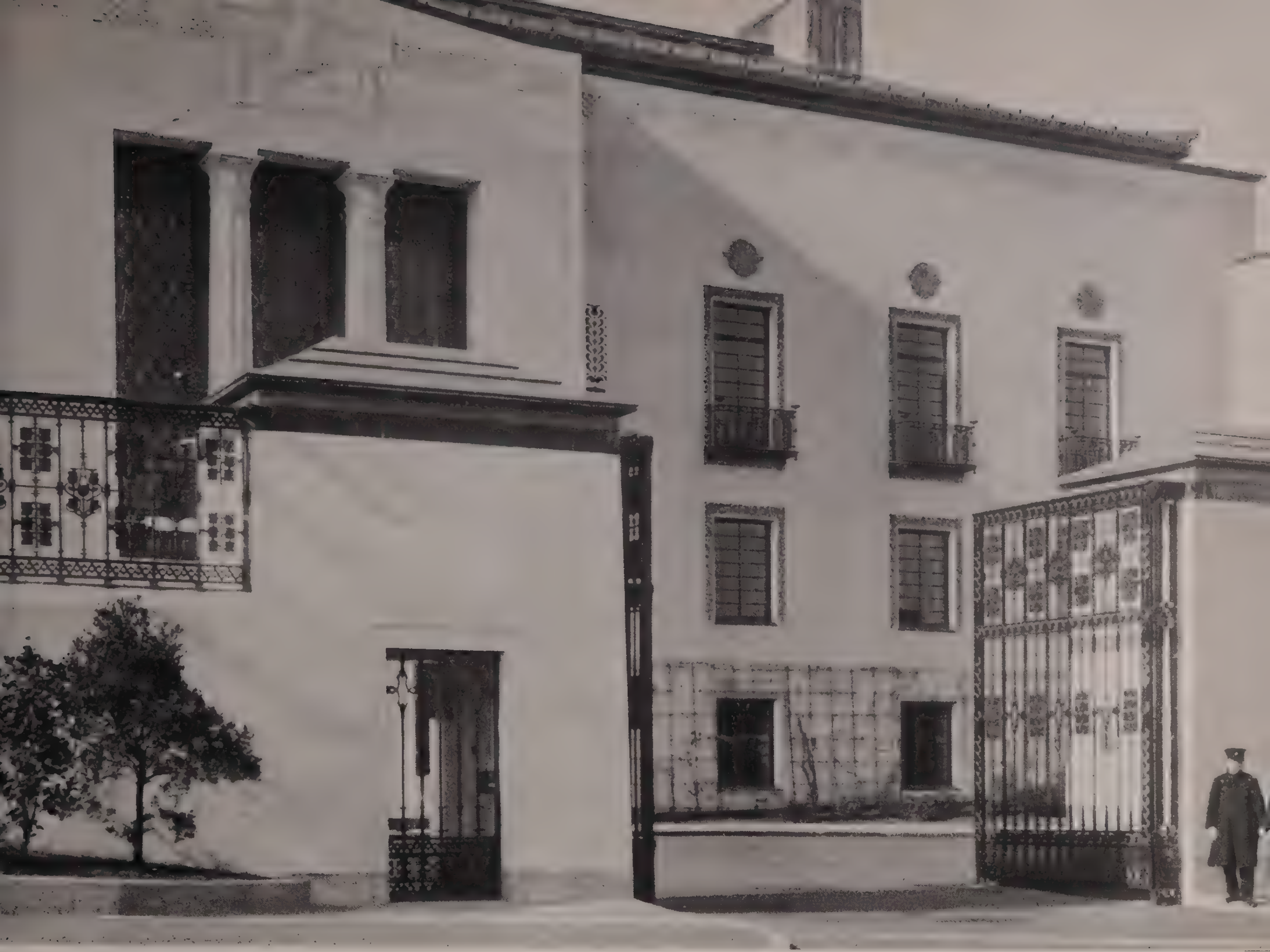
ARCHITECTS ASSOCIATED



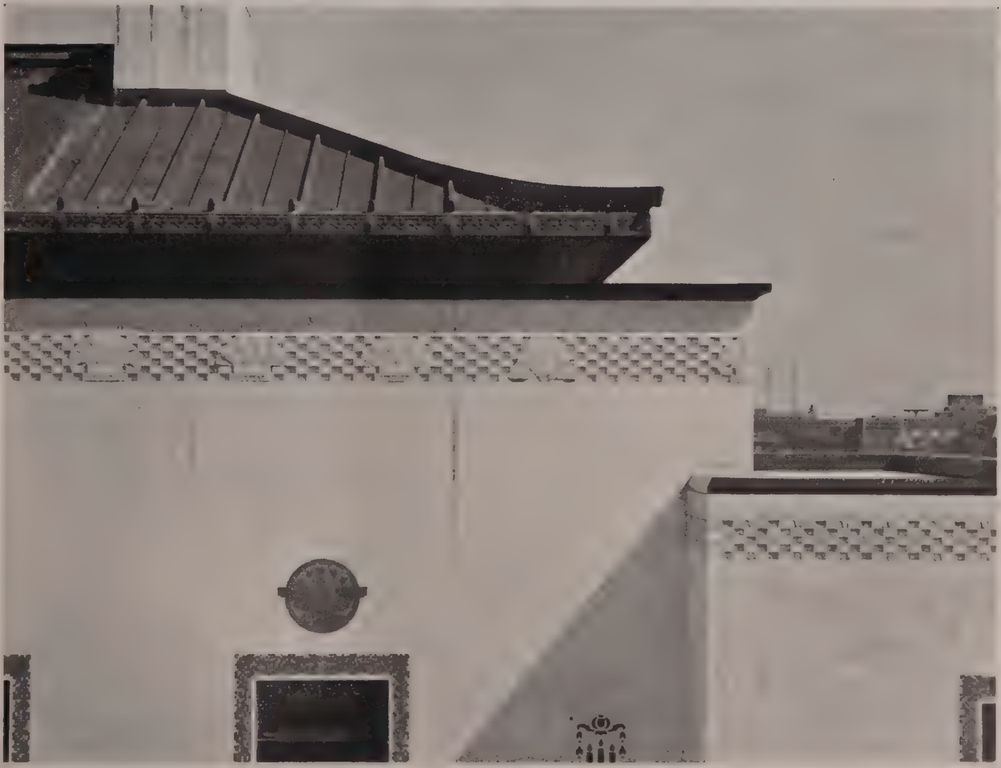
Looking down the main axis of the Lower Compound towards the forecourt entrance to the Embassy. The entrance has black glazed terra-cotta finials on the white pylons, the border around the window being in blue mosaic with gold stars



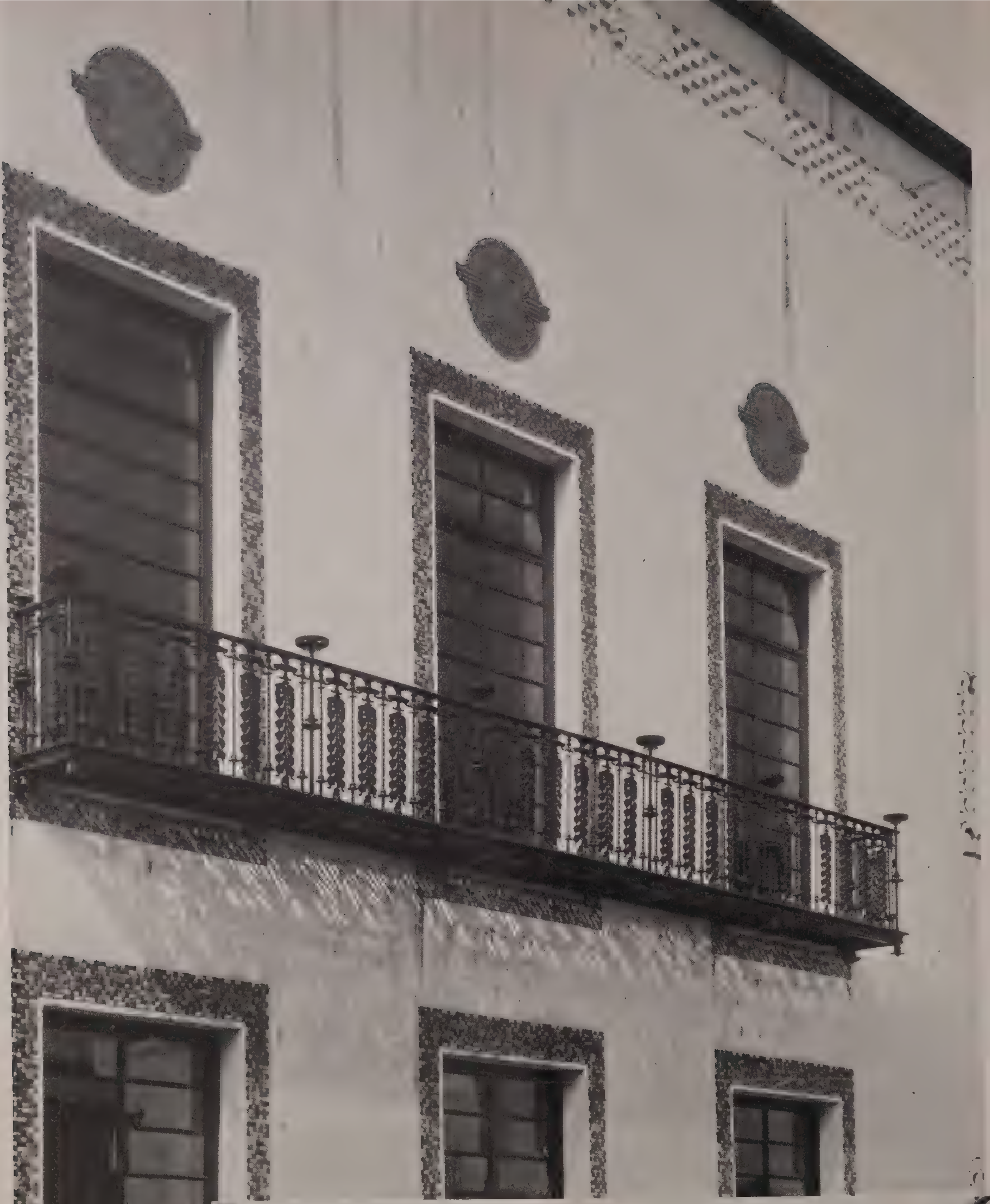
Landscape plan of the two adjacent plots which constitute the Upper and Lower Compounds of our diplomatic quarters in Tokyo. The sections indicate more clearly the considerable changes in level in the site, which occupies a commanding position on the crest of a hill directly across a valley from another elevation on which the new Japanese Parliament Building stands



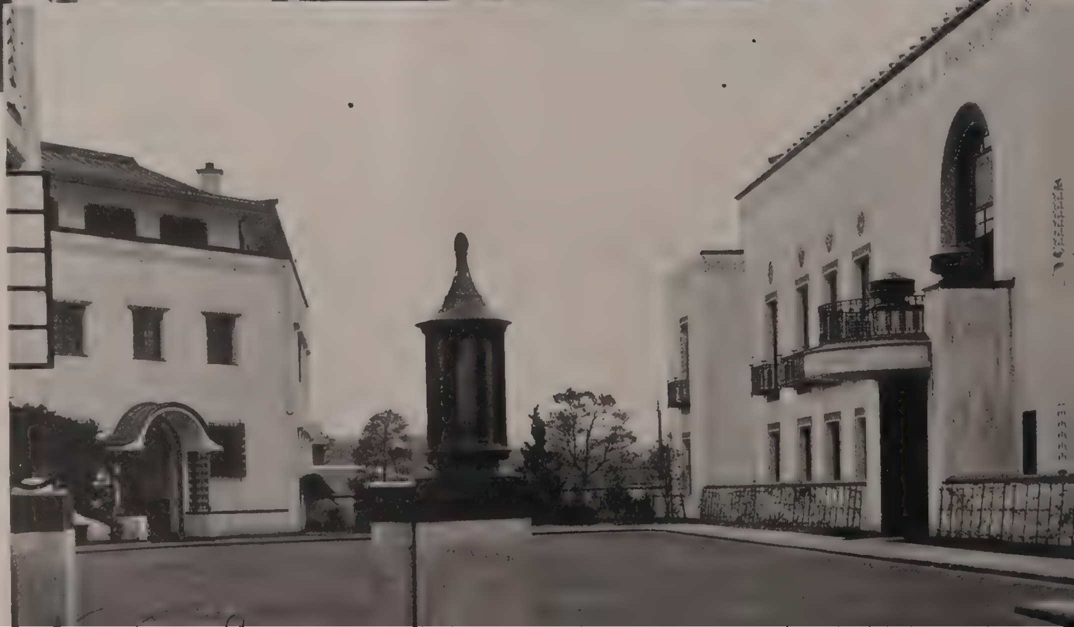
Main gateway to the Lower Compound. The Chancery's basement floor is to be covered with vines, the trellis for which is here seen. Between the columns the border around the windows is tile mosaic graded from dark blue at top to a lighter blue at bottom

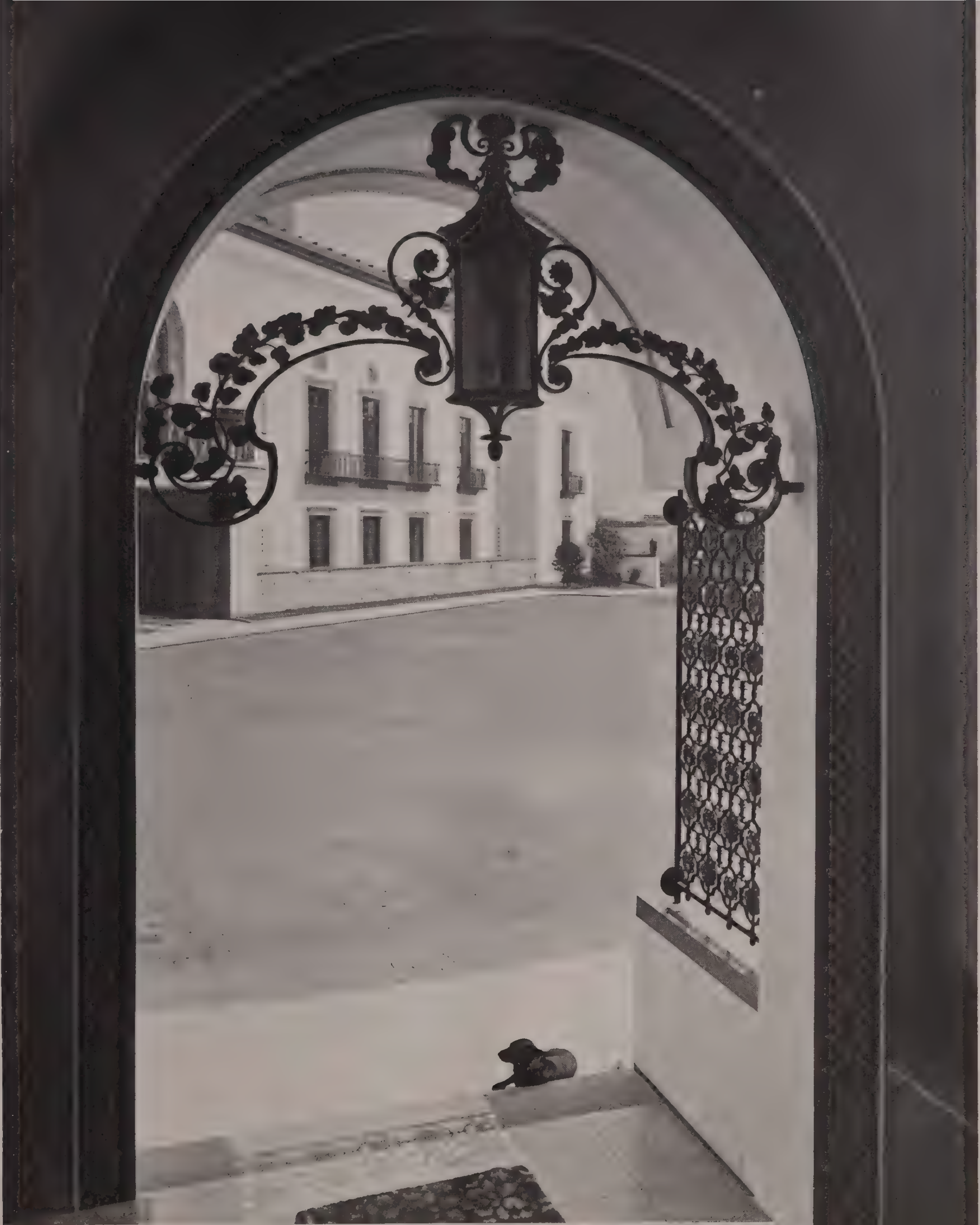


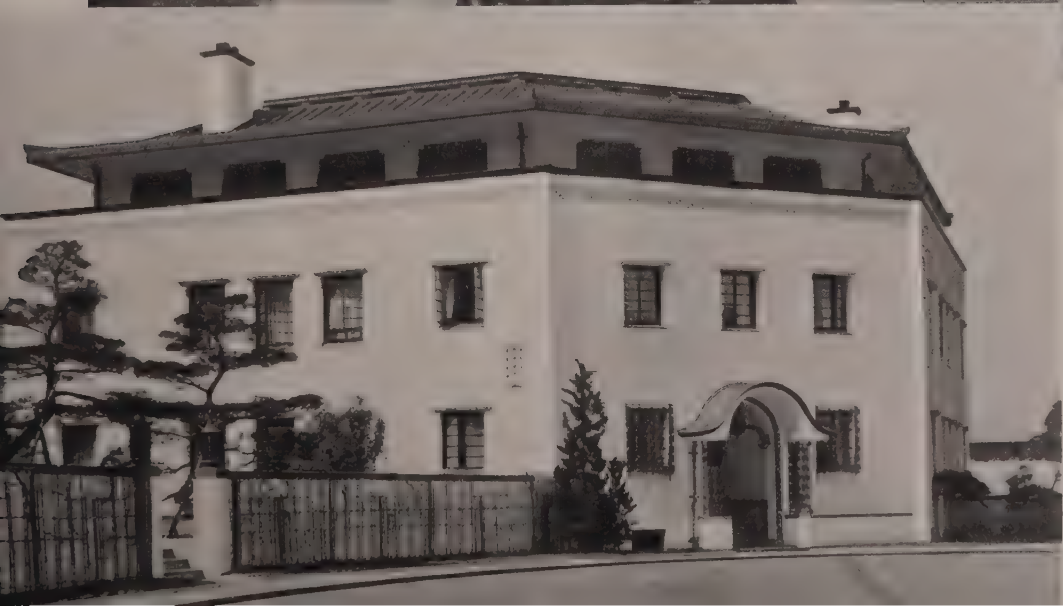
Detail of Chancery roof, of green copper. Moulds for the decorative band about the upper wall were made here and shipped to Tokyo for precasting in the white stucco with which the reinforced concrete wall is covered



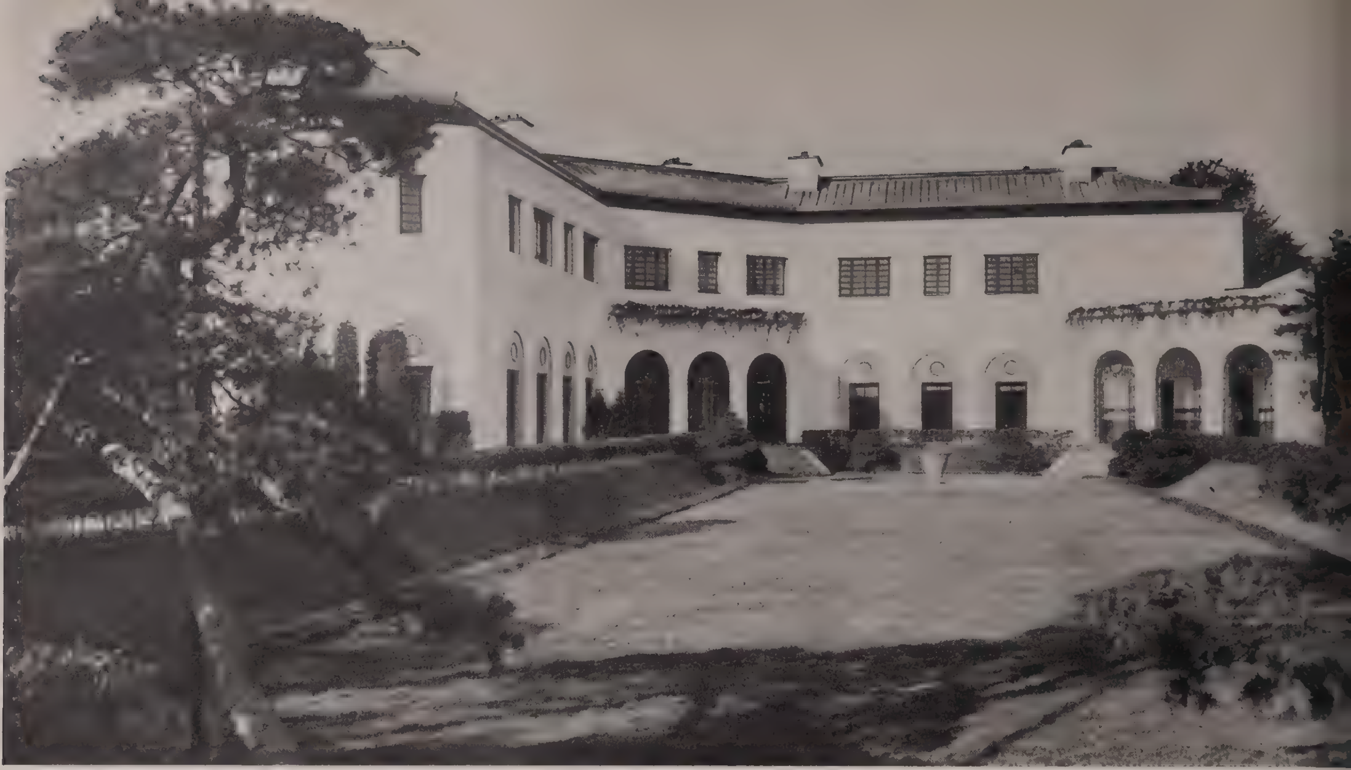
Bands around the windows are in small tile mosaic, graded from dark blue at top to light at bottom. The balcony rail is of wrought and cast iron painted black. Below, the Chancery entrance from forecourt, with quarters for the junior staff at left





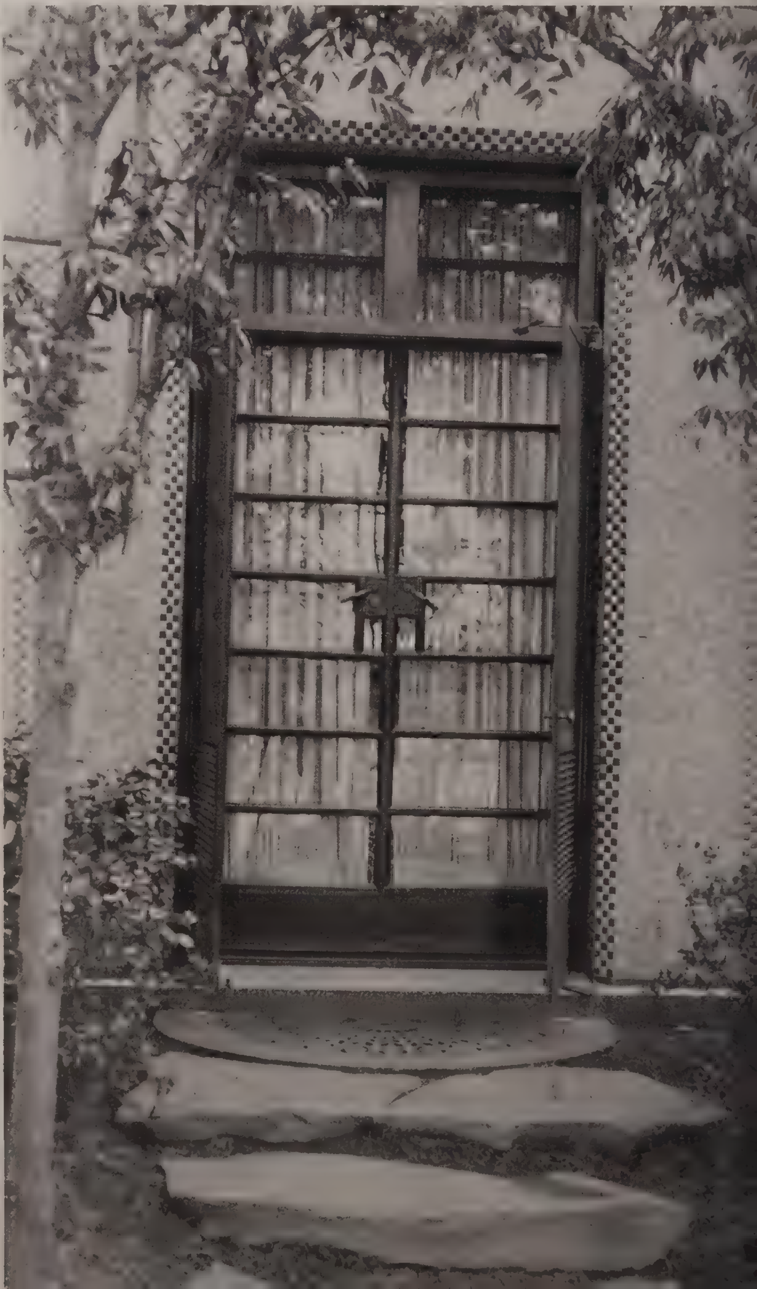


Above, view out of one of the apartment quarters looking towards the Chancery. At right, one of the two apartment-houses for the junior staff

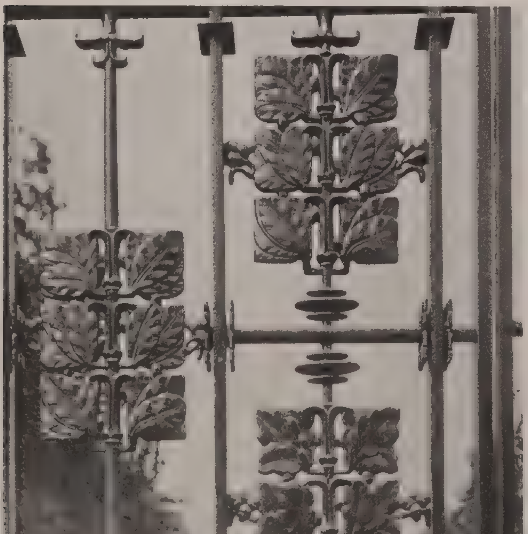


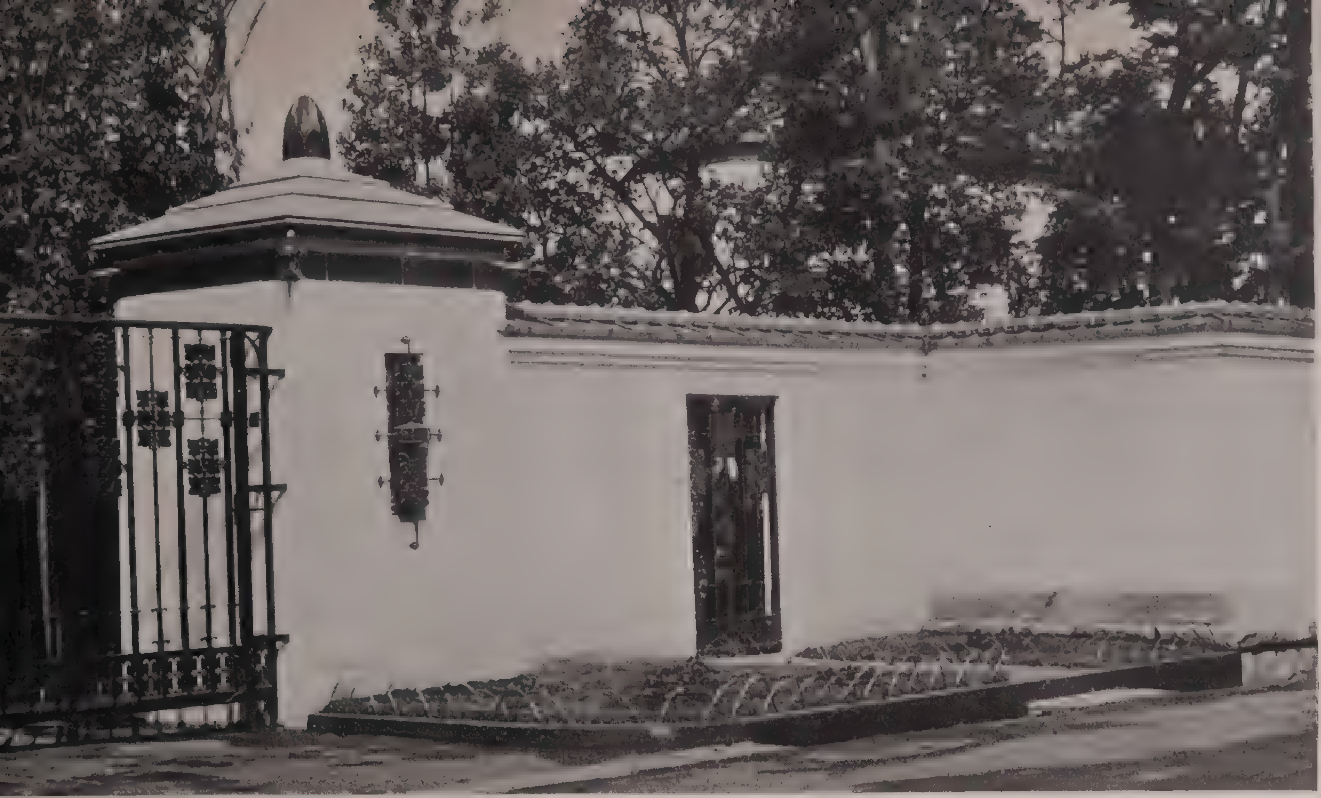
The Ambassador's residence. The landscaping is worked out on American principles of planning, but using Japanese material. At the right corner is the tea-room, triangular in plan

One of the minor entrances to the Ambassador's residence, from the west driveway—bronze doors set in a frame of small tile mosaic

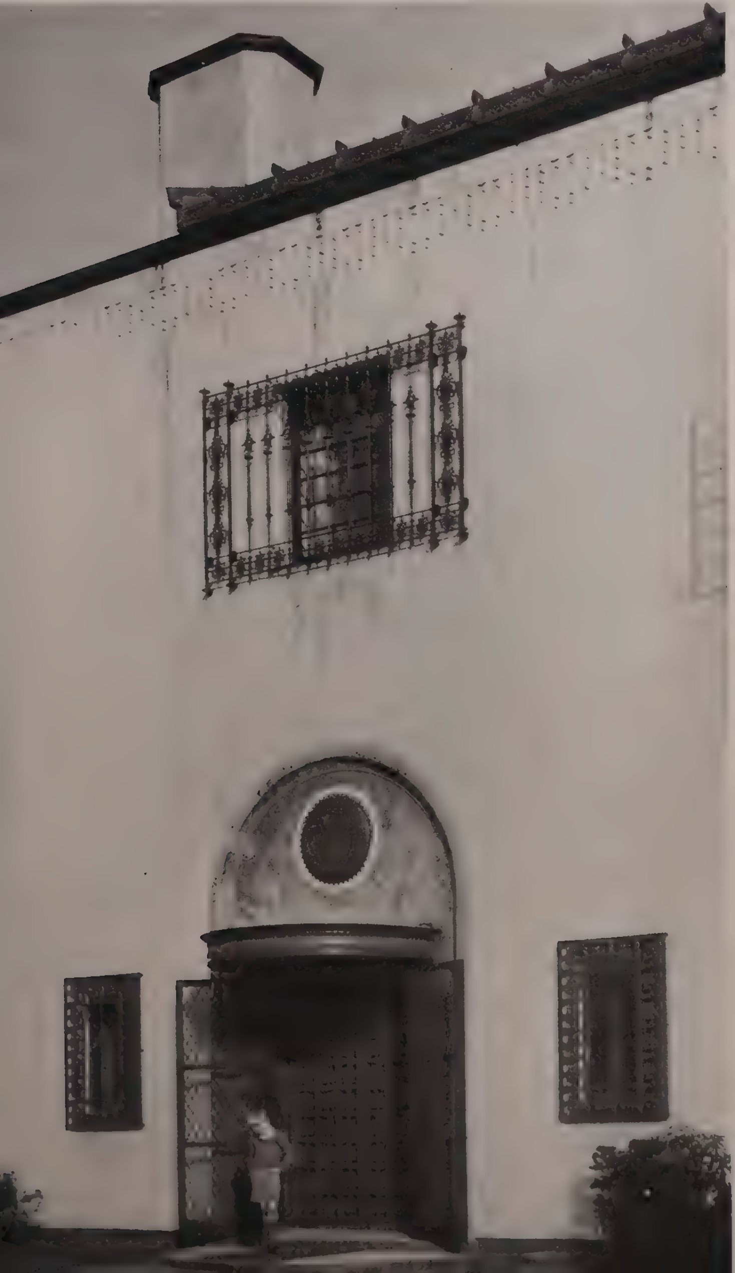


Detail of the fence grille on top of the Lower Compound wall, of cast and wrought iron



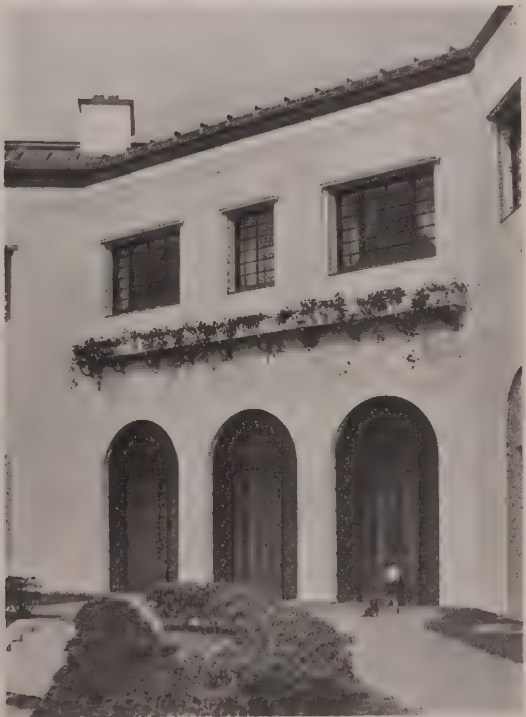


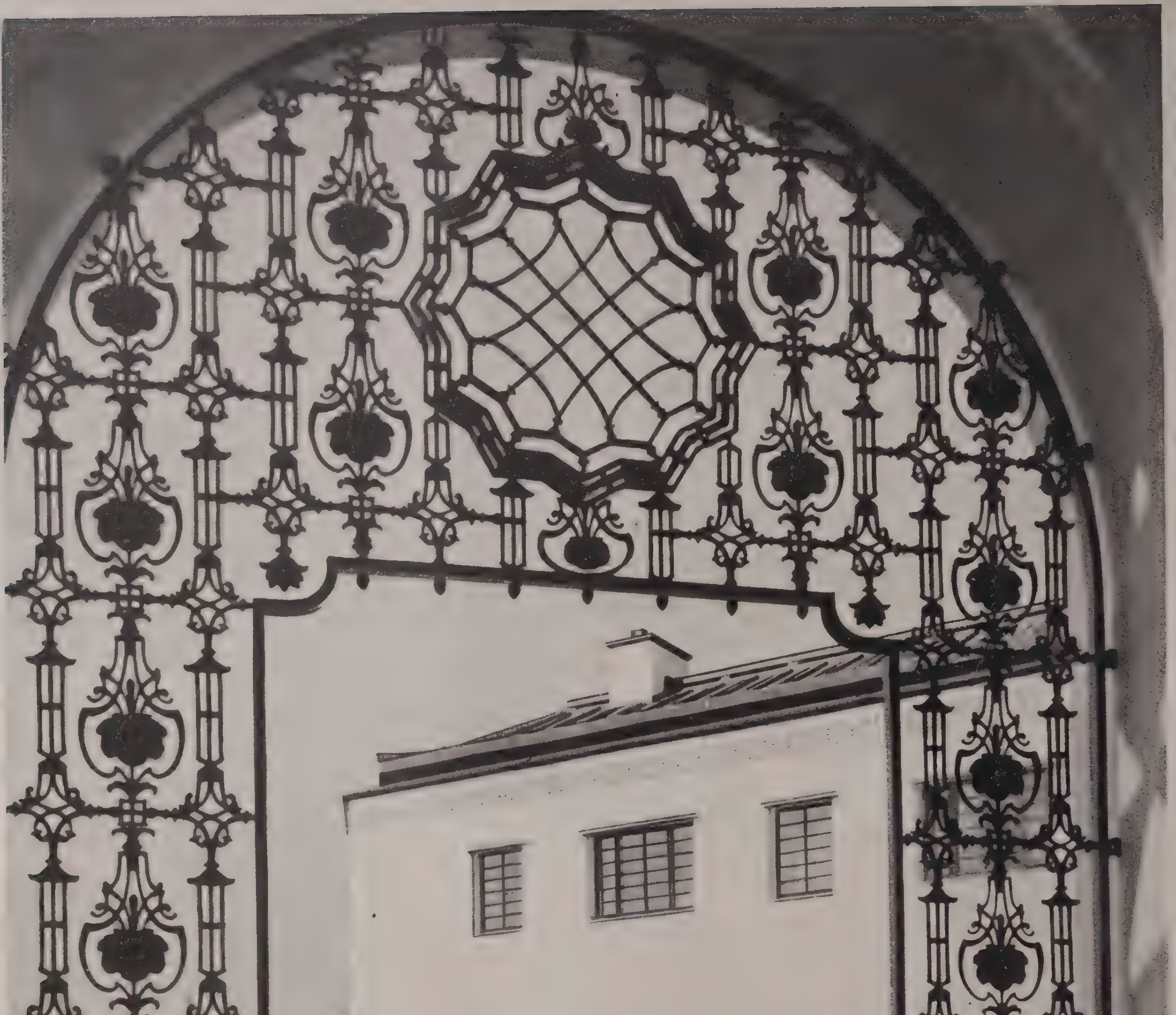
One of the gate-houses flanking the entrance to the Lower Compound. These are roofed with lead above a frieze of black glazed terra-cotta



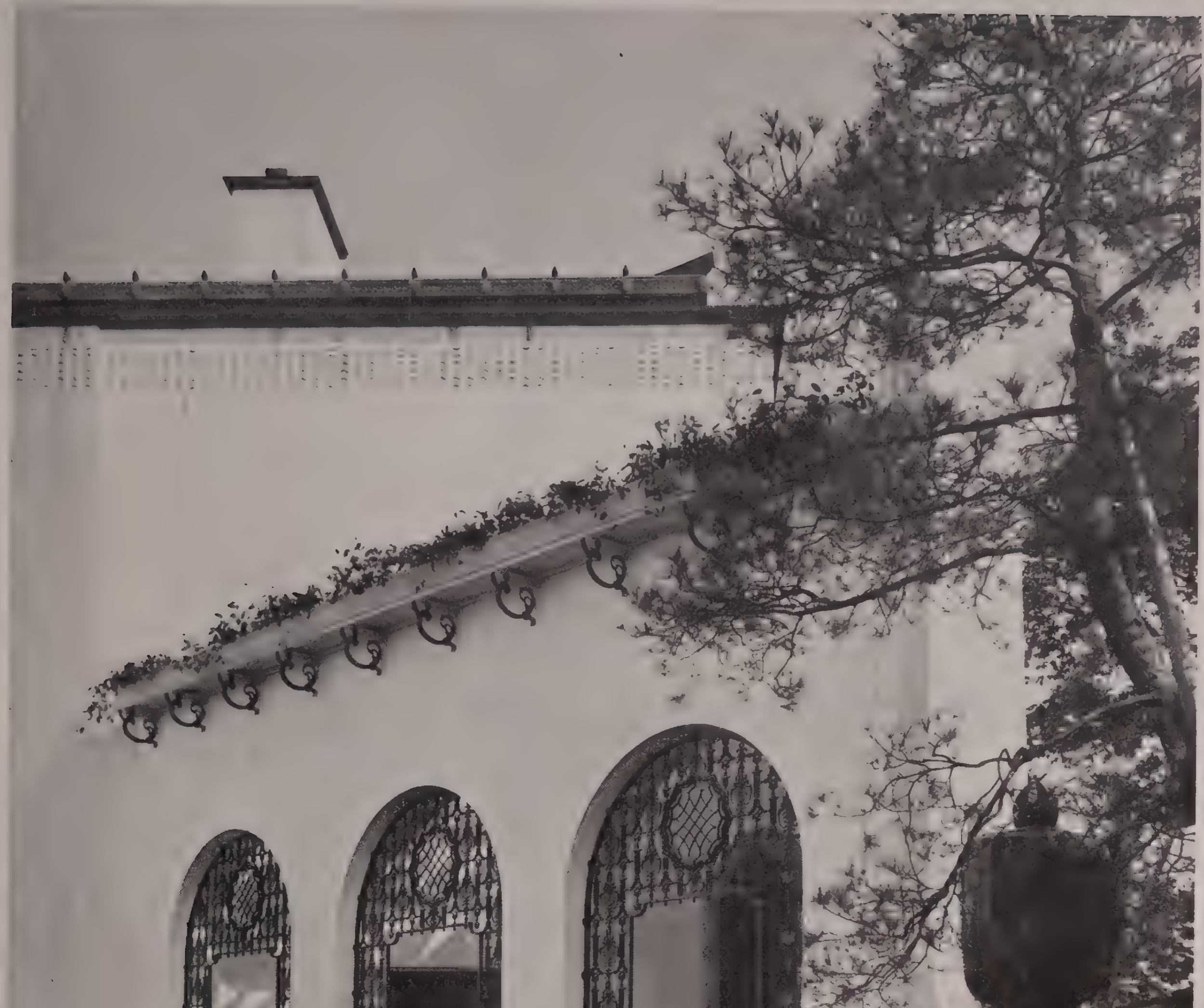
Entrance to the Ambassador's residence from the driveway. Grilles are of bronze below, wrought and cast iron above. The Seal of the United States in bronze is set in a field of black and white tile mosaic and purplish marble

Garden entrance to the Ambassador's residence, which, as may be seen in the plan, is at the interior angle facing the fountain

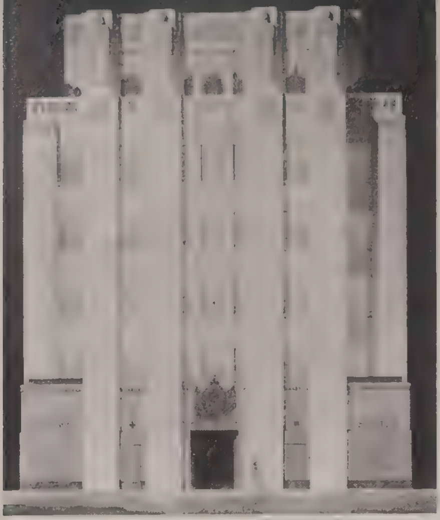




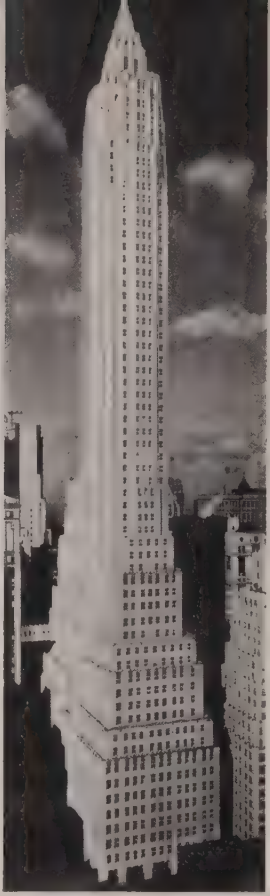
Looking through a grille of the tea-room to the fountain. A temple rain receptacle of bronze is the fountain, set in a pool the floor of which is of tile mosaic graded in from light to dark blue-green



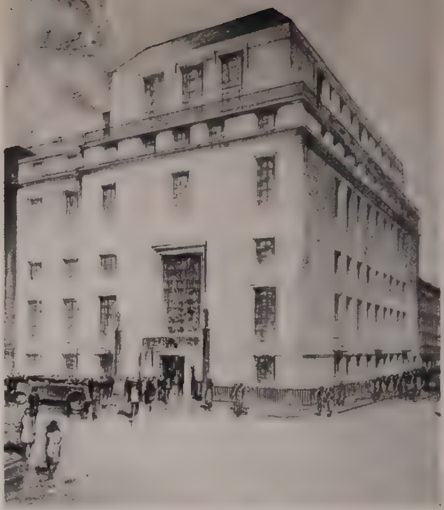
The tea-room, open above but for its triangular pattern of rafters. Its wainscot is of black volcanic pebbles set edgewise. The urn on the end of the wall is of black glazed terra-cotta



Façade of the proposed French Building, which will take its place as one of the units in the Rockefeller Centre now under construction in New York City. Reinhard & Hofmeister; Corbett, Harrison & MacMurray; and Hood & Fouilhoux, architects

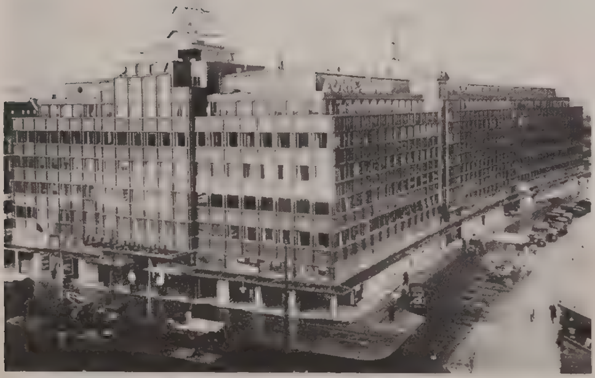


The sixty-seven story building at 70 Pine Street, New York City, known as Sixty Wall Tower. It is owned by the Henry L. Doherty interests. Designed by Clinton & Russell and Holton & George, architects

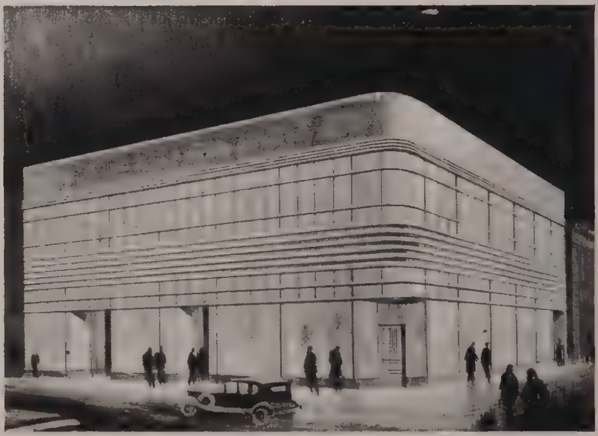


The winning design for the new premises of the Royal Institute of British Architects, to be built on Portland Place in the West End of London. Grey Wornum, architect, was awarded £500 and given the commission

Architectural News in Photographs

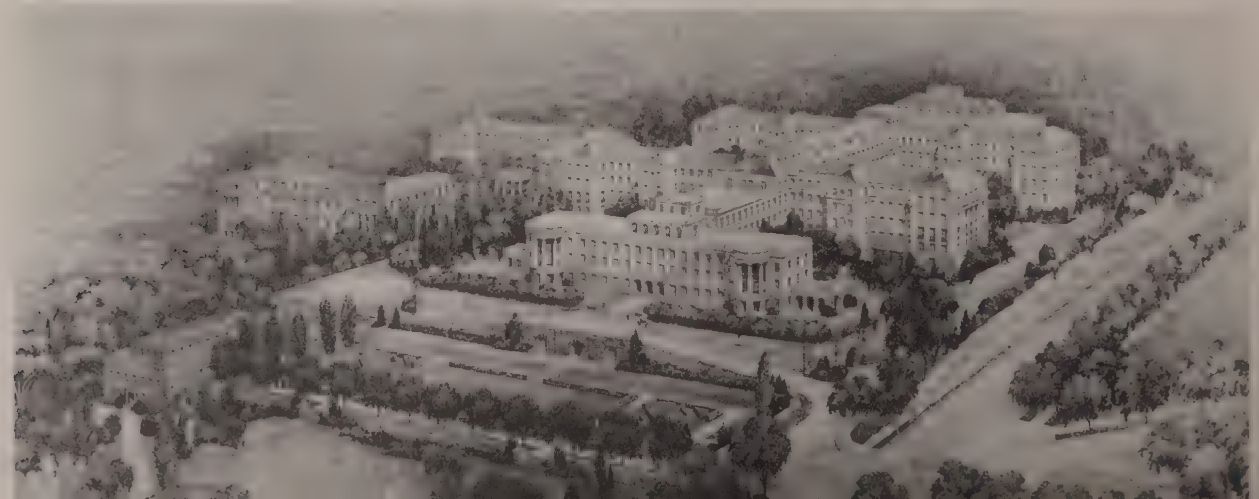


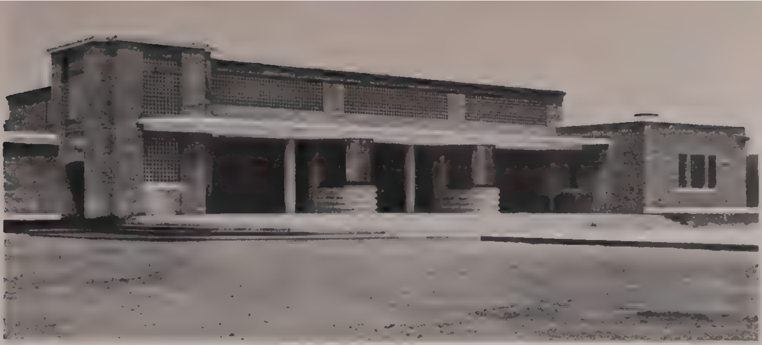
Copenhagen possesses this, the largest commercial building in the world, surfaced entirely with metal (copper). Ole Falkentorp, architect



The Forsyth Store Building now under construction in Oak Park, a suburb of Chicago. Holabird & Root, architects

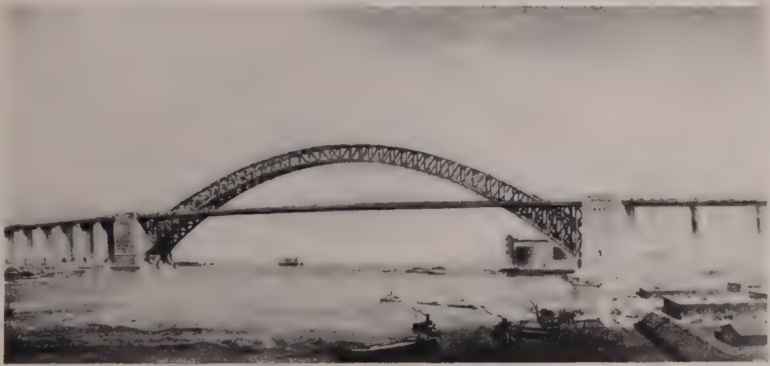
Bird's-eye perspective of the United States Naval Hospital project at Washington, D. C. The Allied Architects, Inc., architects; William Partridge, associate architect for the Navy Department

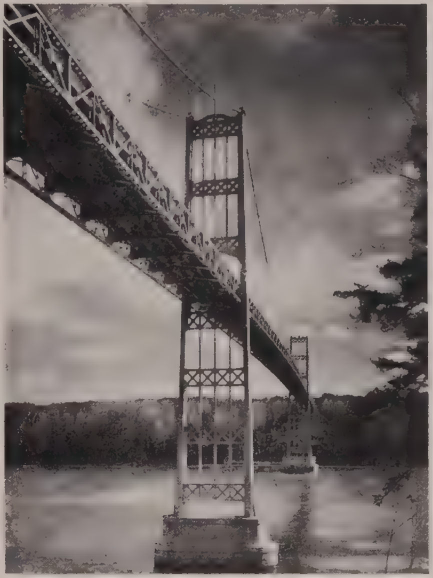


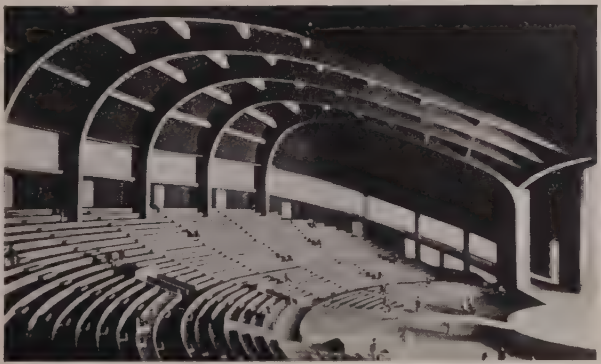


The first use in America of structural glass for exterior walls, Sunken Meadows Bathing Pavilion, Long Island. A tower is to be erected in front on the near corner. Long Island State Park Commission, architects

Below, the Bayonne Bridge over the Kill van Kull, winning first prize in Class A of the annual contest of the A. I. S. C. O. H. Ammann, engineer. At right, Suspension Bridge, Bucksport, Me., winner in Class B. Robinson & Steinman, consulting engineers







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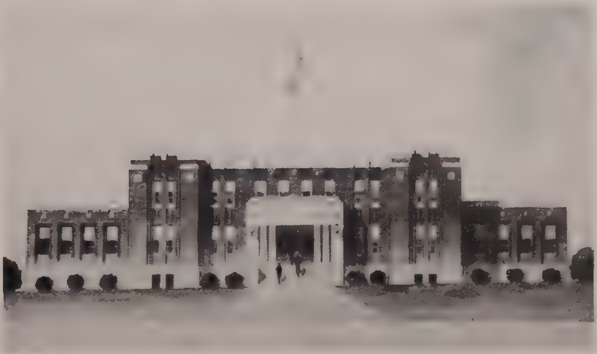
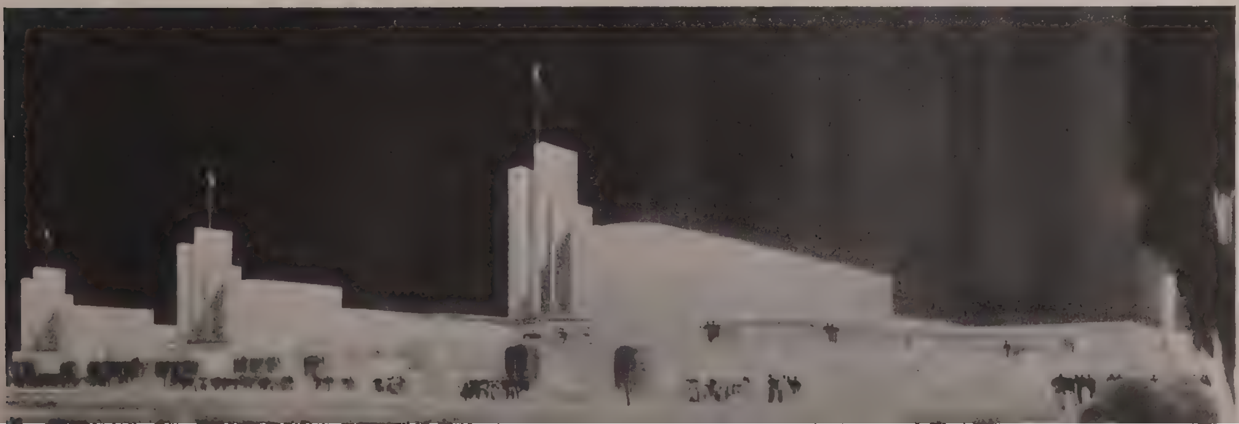
Interior of a model of the new Trade Union Theatre in Moscow. Bruno Taut, of Germany, architect



Proposed West Haven (Conn.) State Armory, won by Fletcher-Thompson, Inc., architects and engineers

Preliminary perspective of the General Exhibit Building for the Century of Progress Exhibition, Chicago. It is to cost $300,000 and was designed by Harvey Wiley Corbett, architect



BOOK REVIEWS

LOST EXAMPLES OF COLONIAL ARCHITECTURE. By John Mead Howells. Introduction by Fiske Kimball. 244 plates, 9½ by 13 inches. Illustrations from photographs. New York: 1931: William Helburn, Inc. Cloth, $25. Morocco, $32.50.

For many years Mr. Howells has been collecting photographs of early American work that had fallen or was likely to fall under the wrecker's bar. The amount of correspondence and patient search that was involved can never be estimated, but, thanks to Mr. Howells's perseverance, this collection of photographs, most of which is of interest architecturally, some of which is of interest merely historically, is preserved to the profession. The photographs are for the most part general views, though there are included some major details, such as doorways and porticoes, and one or two measured drawings.

THE PHYSICAL PROPERTIES OF CAST STONE. By John Tucker, Jr., G. W. Walker, and J. Arthur Swenson. 16 pages, 6 by 9 inches. Illustrations from diagrams. Research Paper No. 389. Pamphlet binding. Washington: 1931: U. S. Department of Commerce. 5 cents.

ENGLISH BRICKWORK DETAILS. 1450–1750. By Tunstall Small and Christopher Woodbridge. 20 plates, 10 by 12½ inches. Illustrations from line drawings. Printed in Great Britain. Loose plates in portfolio. New York: 1931: William Helburn, Inc. $4.

In these days when moulded brick seems to give some indication of again coming into its own, these small-scale and full-size details of notable English brickwork will be heartily welcomed.

THERMAL EXPANSION OF HEAT–RESISTING ALLOYS: Nickel-Chromium, Iron-Chromium, and Nickel-Chromium-Iron Alloys. By Peter Hidnert. 36 pages, 6 by 9 inches. Illustrations from microphotographs and diagrams. Research Paper No. 388. Pamphlet binding. Washington: 1931: U. S. Department of Commerce. 25 cents.

A STUDY OF ARCHITECTURAL SCHOOLS. By F. H. Bosworth, Jr., and Roy Childs Jones. 193 pages, 6 by 9¼ inches. New York: 1932: Charles Scribner's Sons. $1.50.

The Carnegie Corporation has done much for art education and art appreciation in America, and among its efforts not the least is this examination by the personal visits of the authors to forty-nine schools in the United States and Canada, now summarized in this volume. Our architectural schools date, for the most part, from a time when the practice of architecture was far simpler. Our educational system was devised when the greatest objective was felt to be an æsthetic one. The difficulties in which our schools now find themselves, when the profession itself is groping so obviously through a fog, may be readily imagined. There are probably too many architectural schools, particularly in certain localities. Nevertheless, the authors find our architectural schools as a whole attaining a unity which makes them better fitted for their educational work.

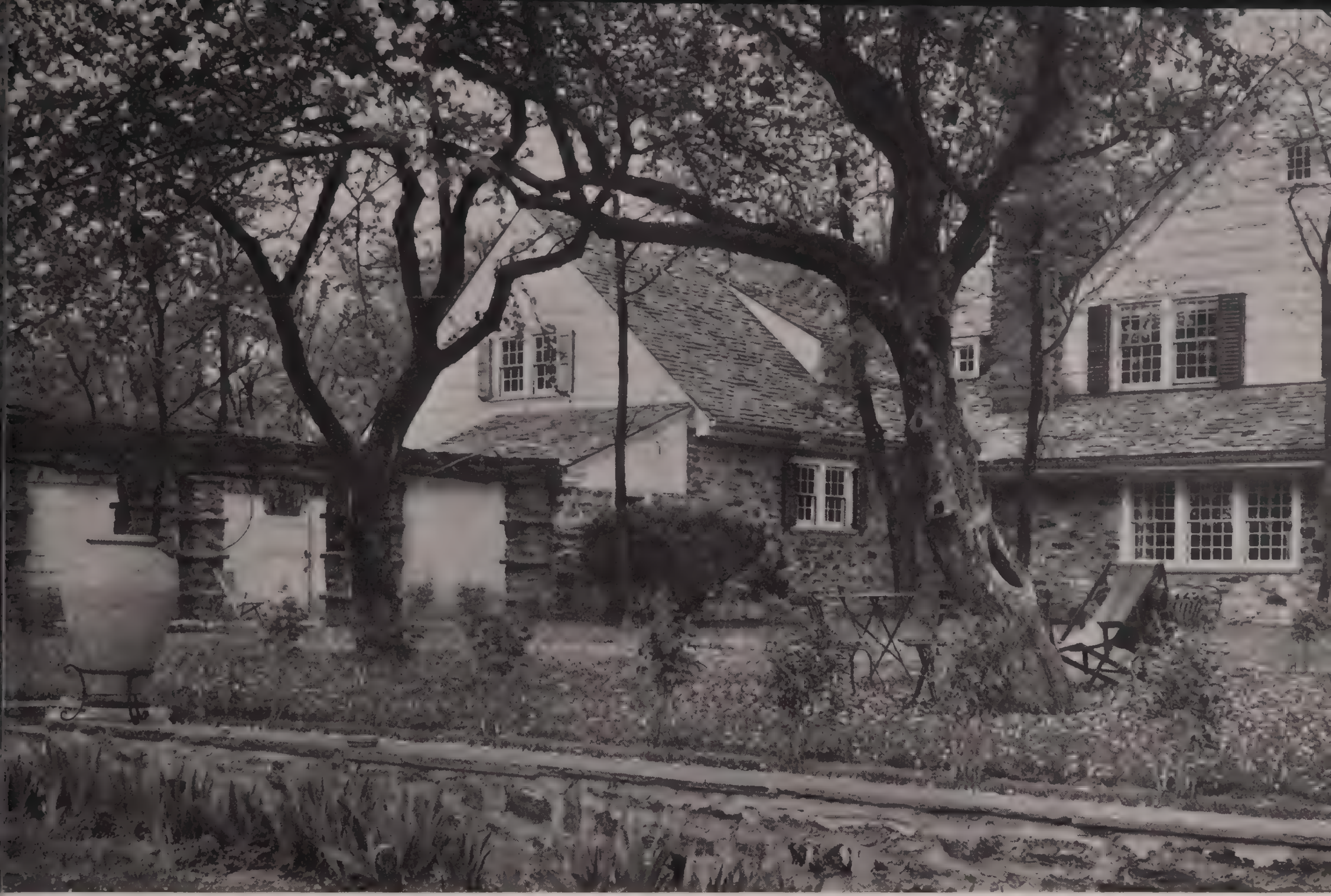
TESTS OF PLAIN AND REINFORCED CONCRETE MADE WITH HAYDITE AGGREGATES. A report of an investigation conducted by The Engineering Experiment Station, University of Illinois, in co-operation with The Western Brick Company. By Frank E. Richart and Vernon P. Jensen. 82 pages, 6 by 9 inches. Illustrations from photographs and diagrams. Bulletin No. 237. Pamphlet binding. Urbana: 1931: University of Illinois. 45 cents.

THE INTERNATIONAL STYLE: ARCHITECTURE SINCE 1922. By Henry-Russell Hitchcock, Jr., and Philip Johnson. Preface by Alfred H. Barr, Jr. 240 pages, 7½ by 9¼ inches. Illustrations from photographs, plans, and diagrams. New York: 1931: W. W. Norton & Co., Inc. $5.

The authors find throughout a large part of the civilized world an architectural tendency which is threefold: emphasis upon volume as opposed to the feeling of mass and solidity; regularity as opposed to symmetry; and dependence upon the color and surface of materials themselves as opposed to applied ornament. They have dubbed this the "International Style," and have analyzed it philosophically, historically, and functionally. The book is a scholarly record of the extreme left wing in contemporary architecture.

SKETCHING AND RENDERING IN PENCIL. By Arthur L. Guptill. Preface by Howard Greenley. 186 pages, 8¾ by 11¾ inches. Illustrations from pencil drawings. New York: 1929: The Pencil Points Press, Inc. $5.

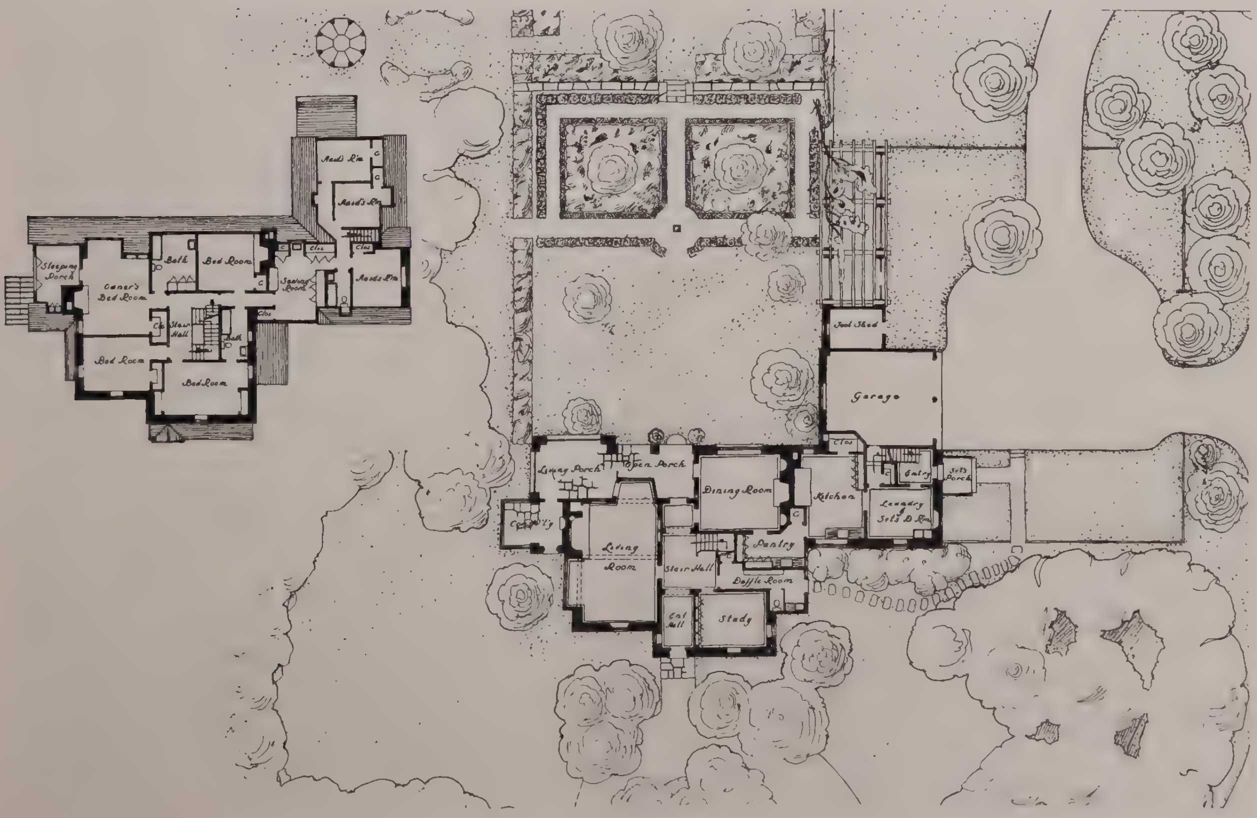
Here is the fourth printing of a book originally published in 1922, which has found a continuous and growing acceptance among those who would make of the humble pencil a facile tool in art. Mr. Guptill's ability to teach drawing in various media is firmly established. With one of his books and an unflagging determination to draw and draw and draw, the ultimate result must be at least a reasonable degree of skill.

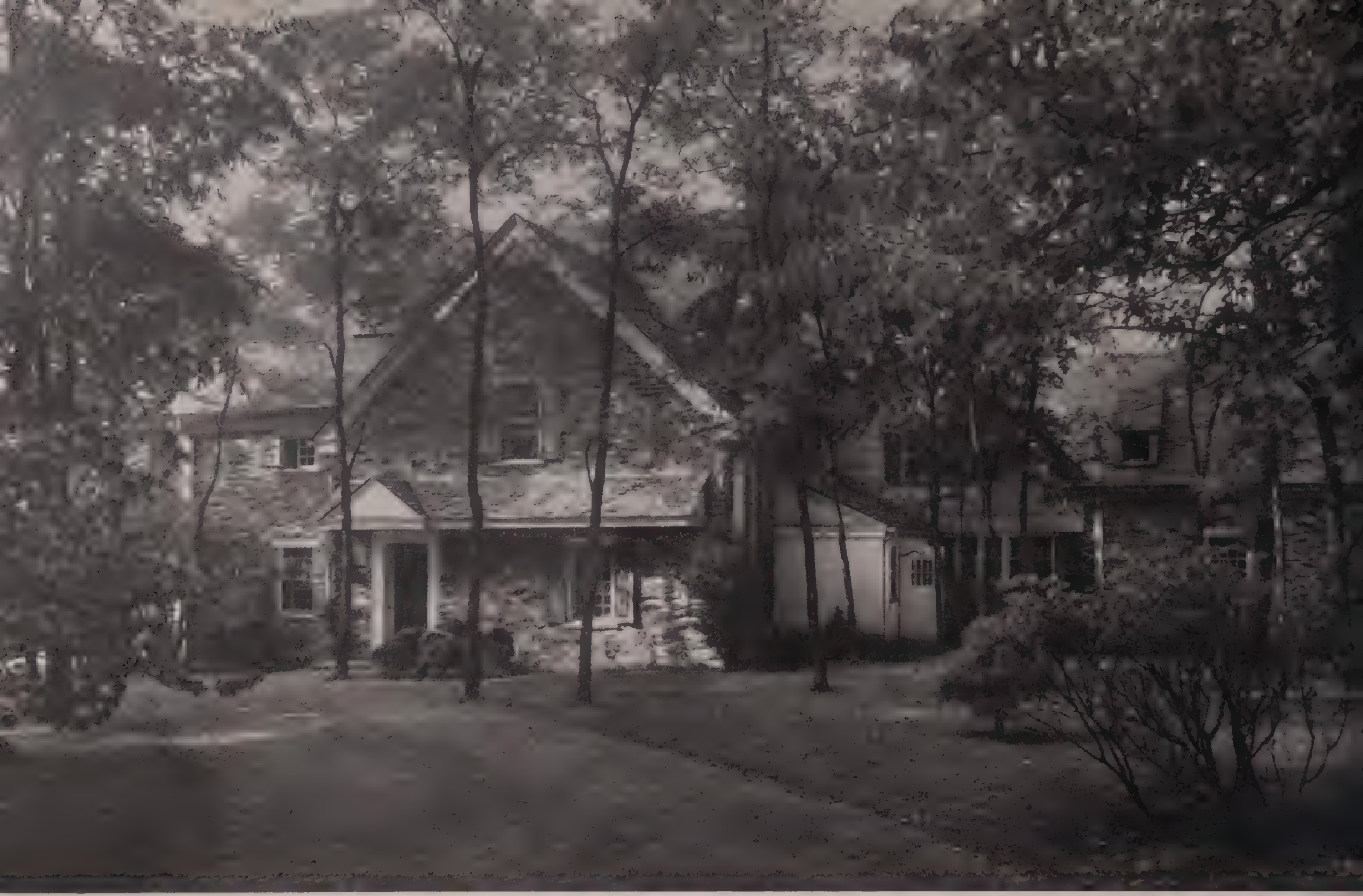


y George H. Van Anda

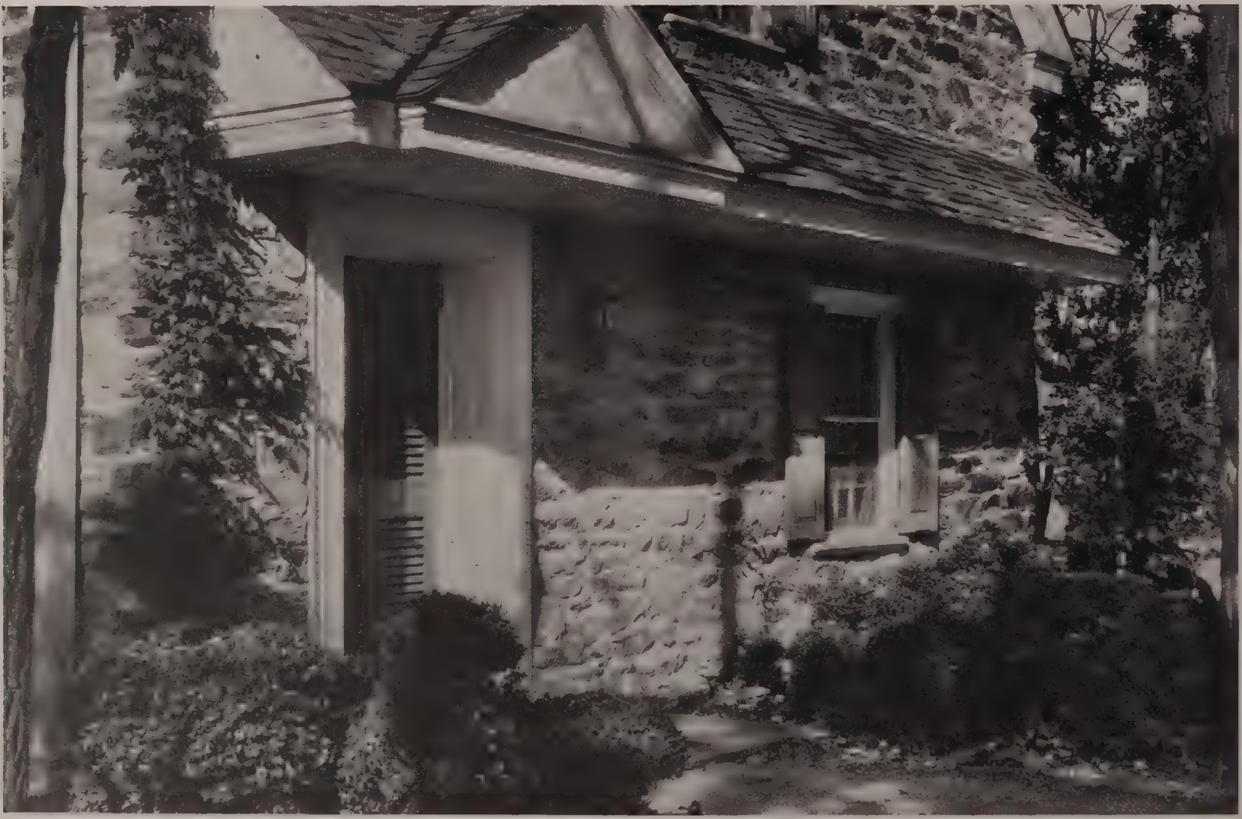
House of Roger H. Bullard, Manhasset, Long Island

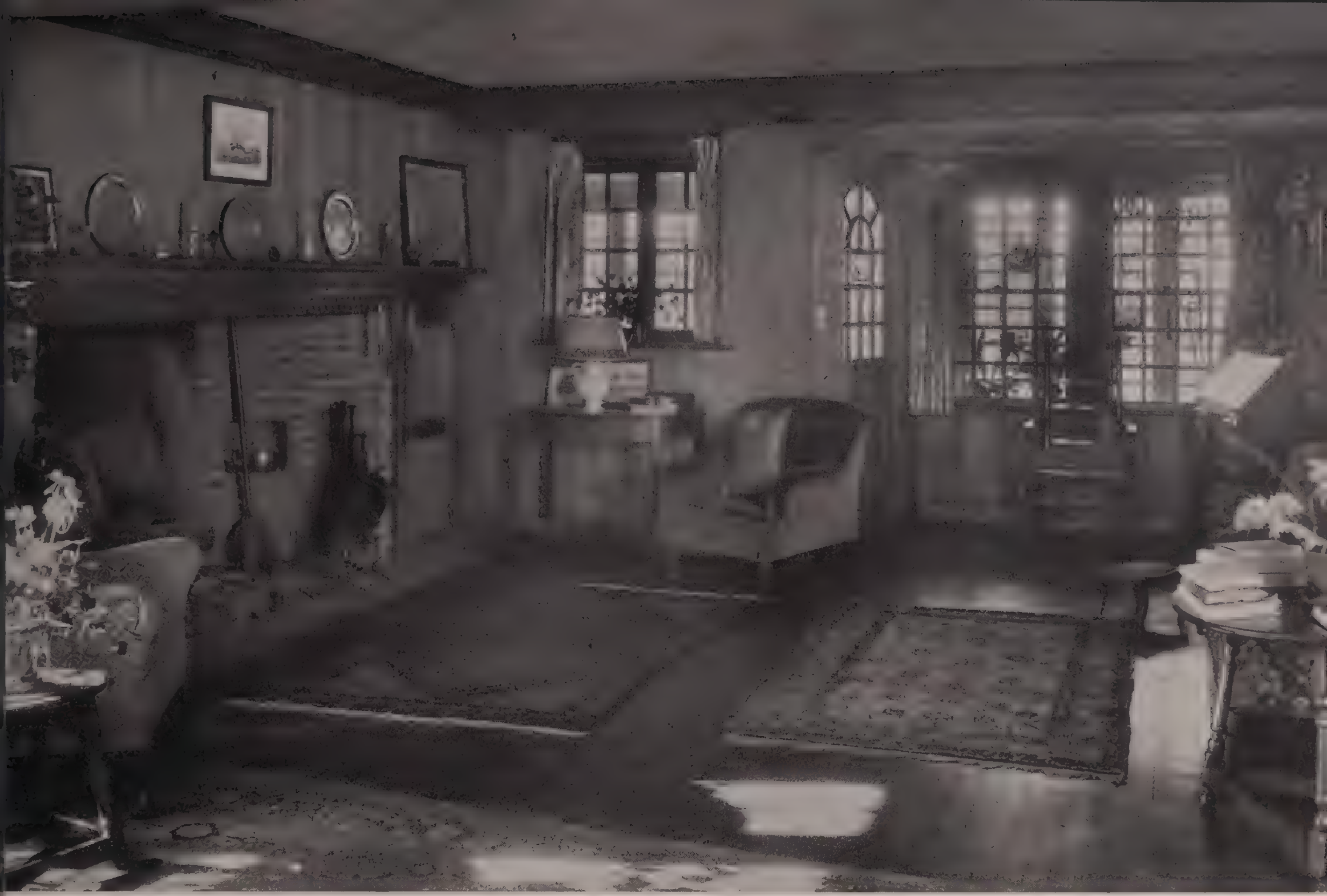
ROGER H. BULLARD, ARCHITECT



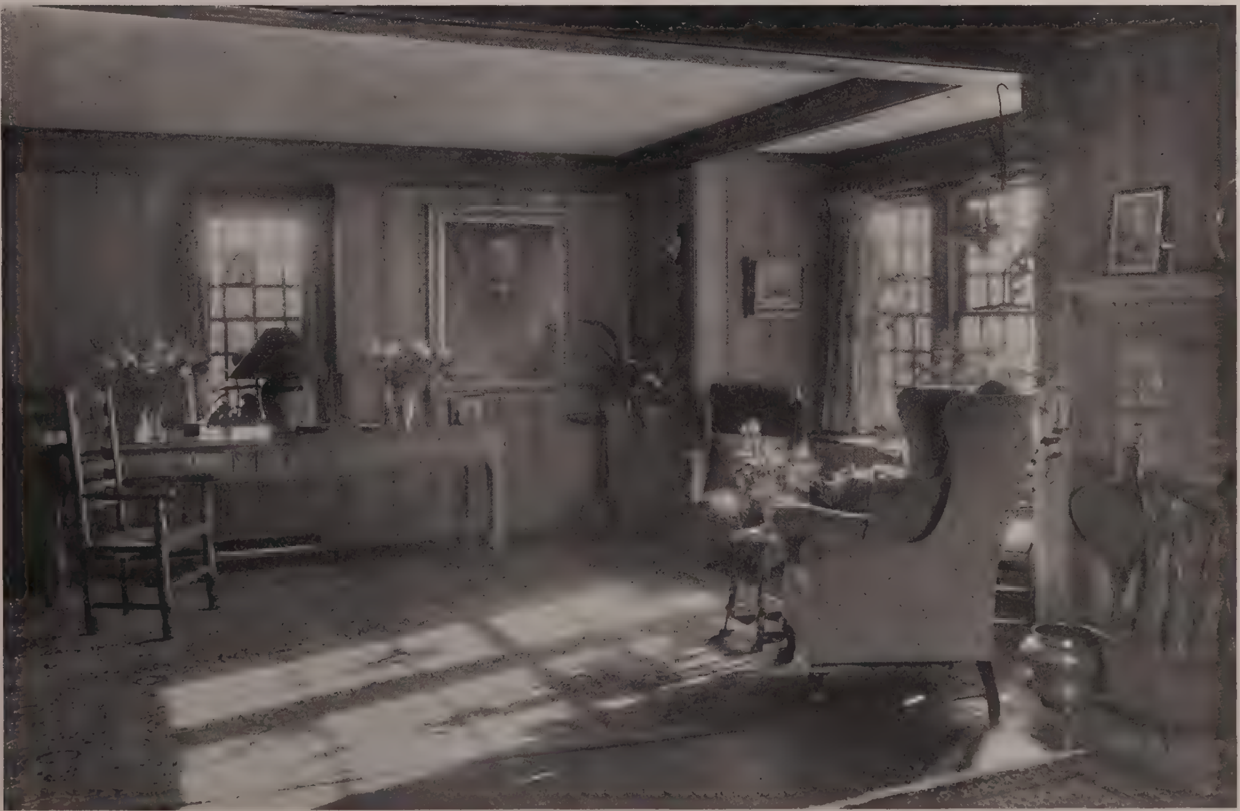


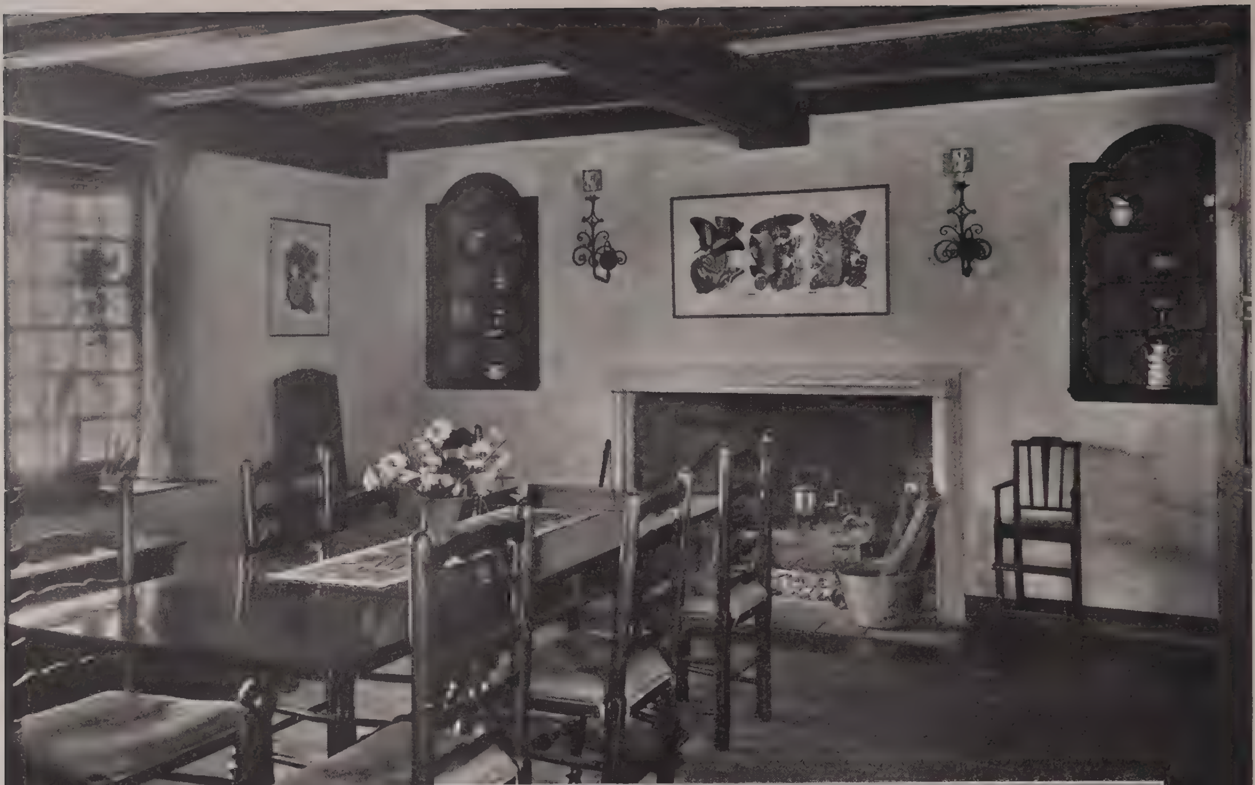
The house is built of stone with shingled gable ends, in an abandoned apple orchard. Gardens and terraces have been related to the existing trees



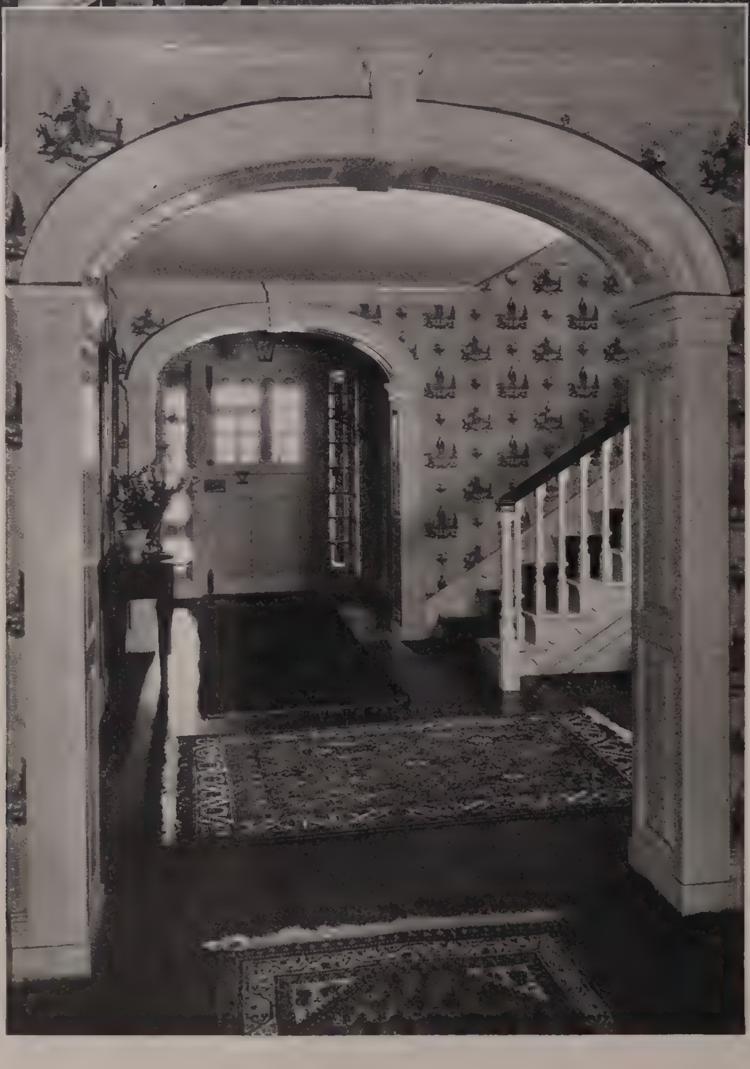


The living-room is sheathed in clear white pine finished with a light stain of walnut crystals. Red predominates in the rugs, and is picked up in the hangings





The plaster of the walls and ceiling in the dining-room has a sand finish. There is a deep tile window-sill for plants. Limestone is used for the fireplace facing. The woodwork is stained a walnut color



One might assume by the location of the main stairs, as shown on the plan, that they would be dark, but there is an overhead light for the whole stair well

Some Pitfalls in Supervision

By W. F. Bartels

XXII. ELECTRICAL WORK

IT is not proposed to go into the science of lighting at this time but only to stress those points which will have to do with the field work and the satisfactory physical working of the system after the work is completed. If the average architect could hear the complaints arising in the field, as well as the complaints of the building manager after the house is completed, it might make considerable of an impression on him. The architect is too prone to plan his lighting by the here-and-there method. He intends to install plenty of light, but often it is poorly arranged. If not deficient from the tenants' or users' point of view, then it is often faulty from the owner's economic standpoint.

As an example of the abuse to which electrical work is subjected, the following incident will serve as an illustration. I was asked to inspect the electrical work of a certain building. There were several circuits which had 12 outlets, each circuit protected by a fuse of 15 amperes. Each outlet had 5 lights of 25 watts each. This gave a total of 1500 watts on this circuit, which, while within the code, was also the limit allowed. Chancing to pass this building some time later, I went in. I was amazed to see 50-watt lamps in each socket, thus using twice the amount of current supposed to be carried on this circuit. Wondering what kind of a 15-ampere fuse could be so elastic and good-natured, I looked at the fuse. It was blown. Being curious to know how such a string of lights could be lit with the fuse still out, I unscrewed the fuse, only to find a penny serving instead.

Too often the architect feels that he is obliged to write, as a specification, a lengthy treatise on the manner in which each wire is to be run, secured, etc. Much of this writing could be eliminated if it were specified that the work was to be done in accordance with the rules and regulations of the National Board of Fire Underwriters and the local laws. The time thus saved might advantageously be used in the inspection of the work.

The superintendent must not relax his vigilance, however, simply because he knows that the work will be checked by an Underwriters inspector. Considerable work is being concealed as it progresses all the time, and the most clever inspector cannot readily detect flaws which are well covered up.

Among the first material to arrive on the job will be the armored cable, or lengths of conduit if it is a pipe job. It will be well for the superintendent to examine this when it arrives on the job. The conduit must at least be enamelled on the inside. Better grades are more than worth their additional cost. Being embedded in cinder concrete, as they often are, is not conducive to the longevity of the cheaper grades. All types must be approved by the National Board of Fire Underwriters.

Before the conduits are connected it should be demanded that they be reamed to avoid all burrs which might injure the cable to be pulled through them. The superintendent should occasionally look at the threads on the pipe to see that there are enough so that a tight, rigid and waterproof connection can be screwed together. In cheap work it will sometimes be found that only two or three threads are run on the pipe, and these alone are being trusted to hold the line together. Such practice should not be countenanced. Of course no pipe should be permitted to be bent in a vise, or in any other manner which will reduce its cross-sectional area at a bend, for it is at just such a place where it needs all possible room.

Sometimes when the conduits are all fitted together it will be found that the line is too long for the run intended. Instead of taking the last length off, cutting it to size and rethreading it, some electricians will bend it with a "hickey," thus reducing its length but also increasing the number of bends in it.

The National Electrical Code requires that conduits be continuous from outlet to outlet, and of course this applies as well to armored cable, which must be run in one continuous length. An Underwriters inspector, living on a street on which several houses were being put up by builders of the "skinflint" variety, tells an amusing story of a violation. One night his wife asked him if they could use all *small* lengths of armored cable (more familiarly known as BX) on small houses. Upon questioning her he found that three "electricians" had passed the house during the day, each carrying a bundle of assorted short lengths over his shoulder. Later, when the builders applied for an inspection on these houses, this particular inspector asked if he might look them over. Permission was readily granted. Upon arriving at the houses the work was finished; the cellar ceiling was plastered. Removing a part of the cellar ceiling he was not surprised to find the short ends spliced together. Of course this meant pulling all the work out to show of what it consisted. And to the present time these "electricians" are wondering what kind of an X-ray eye that inspector possessed.

When conduits are placed over wire mesh, as in cinder concrete floor arches, they should be kept on top of the mesh and not under it. When run in hung ceilings the electricians should be specifically warned against cutting into the arch (if it is of the reinforced type) to tie his pipe to a piece of the reinforcing. Hangers should be provided in the concrete slab before it is poured. Vertical risers should be well secured to the walls, and in case of large-sized conduits suitable supports should rest on the floor or framework of the building. It might be well for the superintendent to note that the code provides only that the conduits are to be "securely fastened in place." In the absence of definite directions in the specifications, the superintendent should interpret "securely fastened" to mean in such a manner that a slight twist on the pipe will not cause the switch box to crack the plaster, or that in pulling the wires plaster cracks will not show up along the conduit lines. Outlet boxes, fuse boxes, and switch receptacles, where set in the wall, should be so securely fastened that they will not cause plaster cracks when the wires are drawn. Also they should be set in the same plane as the finished plaster if they are to be flush, and should not be set at an angle, because the plasterer will, in most cases, attempt to finish his plaster with the boxes, rather than let one edge of the box project beyond the plaster.

It is the superintendent's duty to see that the wire used on the job is the same as that specified. It might also be well to spot-check certain wires to see that they have not been overloaded, or that one has not been made to do the work of two. It is logical to suppose that no wire itself will be allowed to be embedded in cement or plaster. Wires going through junction boxes must be taped, and it is well to get, if possible, the wires in the fuse boxes taped with flame-proofed tape. Proper support must be given to wires in vertical risers; this is generally done by means of a wedge-type conical plug with grooves, which has a tendency to hold the wires tighter the more they are pulled down. Of course no good mechanic will be party to splicing a wire which is to be concealed in a conduit.

When certifying for a payment as to the amount of wire pulled, the superintendent might make sure that the wire is really drawn. Once when inspecting a job for a payment certificate I realized that exceptionally fast time had been made. Chancing to give several wires a vigorous pull, I was amazed to find a short length of wire came right out of the conduit! The same hoax had been tried throughout the job. Instead of a payment the contractor was given a handful of wires I had plucked.

Checking the layouts of the conduit is another item. If there is a transformer on the property it should be located as nearly as possible to the incoming high-tension wires. Primary lines running to a transformer must be encased in 2 inches of concrete. If this were not done and one line blew out it would very likely burn a hole in any neighboring conduit and possibly plunge the entire building in darkness. Large conduits should not be run in thin partitions, but are preferably located where they are readily accessible. The superintendent should see that all conduit is checked as it is being erected, particularly before the masonry partitions are erected. Otherwise a large amount of chasing and unnecessary cutting will have to be done. The latter is always the result of poor planning, and should be avoided. Particular care must be exercised so that the electrican will not run his lines in a fire tower wall. If he does this it will be necessary, of course, to install junction boxes, and the thickness of the fire wall will be diminished to the serious embarrassment of all concerned. It is also inconvenient for the mason, as well as typical of poor construction, to have a switch or outlet located near the corner of a wall. The conduit is generally run down from the ceiling, and, if it goes down in a thin partition, it means that the latter is practically of no use as a support for the door on the side toward the corner, because the conduit causes the partition to be split vertically, no matter whether the gypsum or hard-burned terra-cotta blocks are used. The result is a shaky door frame and cracked plaster about this corner. In frame construction this is not a factor.

(*The next installment continues Electrical Work*)

The Editor's Diary

Tuesday, May 24.—Under the auspices of the American Institute of Steel Construction, a large group met at the Engineering Societies Building today at the beginning of a two-day forum for the purpose of an exchange of experiences in building the small house. There were plenty of good speakers who were well informed on the subject, and yet I left the meeting at noon with a feeling of discouragement. Meetings of this kind, including the President's Conference last December, seem to plow over the same old ground. Most of us are fairly acquainted with the facts in the problem and the aims to be sought. It seems to me that we waste a great deal of time in repeating over and over these facts and aims without doing very much more about them. It is obvious that the building of the small house is about to emerge from its mediæval crudeness through the aid of prefabrication with mass production. It is also obvious that two thirds of our population cannot afford, under present conditions, the cost of what is considered a minimum of housing accommodation. Obviously again, our problem is to hasten the former process and devise better means of overcoming the present impossibility of the second hypothesis. No one thing will achieve this. There must be a correlation of building technique with financing and marketing. Of these three factors, possibly the two more backward are the last two. Building technique is certainly making progress rapidly these days. Finance is still a great stumbling-block, and marketing on the scale that is needed has apparently not even been studied.

Wednesday, May 25.—Undismayed by yesterday's experience in the Small House Forum, I spent another few hours listening to what I hoped might bring a conviction that I was wrong. The conviction, however, remains that conferences, forums, conventions, and the like are either a real waste of time or at best a slow, laborious, and clumsy way of achieving the end in view. Somewhere today one or more trained men are attempting to achieve the unit bathroom. Somewhere else, others are attempting to achieve the pre-fabricated, self-supporting wall slab; elsewhere, a unit kitchen. One of these men or groups will eventually succeed, and the building of small houses will be set forward by that step. It seems to me that in this way only, step by step along definite roads, will progress be made, resolutions, fact finding, and speeches in conventions notwithstanding.

Thursday, May 26.—There has been some discussion lately as to the relative efficiency of government architectural bureaus and individual practitioners. It is a difficult comparison to make—one can only cite individual experiences, as for instance:

July 20, 1931.—Wrote Supervising Architect's Office, asking the privilege of publishing some recent post-offices of moderate size. No answer.

Aug. 18, 1931.—Repeated the letter.

Aug. 25, 1931.—Acting Supervising Architect writes that no perspective drawings are available, but he would be glad to submit photographs of completed buildings. How many?

Aug. 31, 1931.—Wrote Acting Supervising Architect that I would be delighted to have some of the photographs. No photographs arrived.

Feb. 10, 1932.—Reminded Acting Supervising Architect of his promise. To date no photographs and no reply, making a total accomplished by correspondence efforts over practically one year, nil.

I doubt whether this would have happened if my correspondence had been with any individual practitioner in the United States.

Friday, May 27.—A committee on business reports, statistics, and trade information appointed by the National Conference on Construction, Washington, D. C., has issued a preliminary report in which is a manual telling how to make an occupancy survey of residential, neighborhood store, and neighborhood office buildings. The question of whether any community is underbuilt, properly sheltered, or overbuilt is too often left to the casual observations of uninformed individuals. In these days of somewhat enforced leisure a local occupancy survey committee, including representatives from real-estate, city-planning, post-office, city government, mortgage bankers, chamber of commerce, owners' and managers' association, public utilities, health councils, and other organizations that may be affected, can find out where the locality stands and what should be done about it.

Saturday, May 28.—Moved into the house which I started to build on February 12, having had three and a half months of practically uninterrupted good building weather. It is interesting to record the fact that today one builds, for thirty cents a cubic foot, a house that three or four years ago we considered a good investment at sixty-five cents to a dollar per cubic foot.

Monday, May 30.—There is an unusual situation in the field of building materials. With prices on a bargain-counter level, there seem to be few buyers. One difficulty that faces us is that with a returning activity in building, dealers' stocks will be found depleted. Common brick shows some points of the unique situation. During the first seventeen weeks of this year common brick movement for building purposes totaled 3,818,000 as compared with 10,532,000 in the same period of last year. Naturally there is nothing to encourage common-brick production. Just what will happen to brick prices in the fall, when it is too late for open-yard brick production, with a looming shortage in buildings such as faced us after the war, is an interesting speculation.

Tuesday, May 31.—The Women's Division of the Architects' Emergency Committee, New York, has organized an Architects' Hobby Show, admissions to which will swell the fund for the unemployed. What architects do in their spare time has been considerably enlarged in scope during the past year, and includes a wide variety of activities, from driving taxicabs to selling apples. In the field of hobbies, however, their activities range from painting in various mediums through photography and many of the crafts. Pleasants Pennington raises pigeons; Ely Kahn enjoys cooking spaghetti; Joseph Urban and Ethan Allen Dennison carve wood; William Lescaze, as one might expect, works in metals, as does Julius Gregory; Roger Bullard collects butterflies and moths; Bradley Delehanty and F. C. Thomas spend their spare time in steeplechasing and hunting.

Wednesday, June 1.—With the growing acceptance of steel casement windows in residential work one hears more and more arguments as to the relative advantages and disadvantages of casements as compared with doublehung windows. As a type there are obvious advantages, but there is one disadvantage of the casement which I have not seen overcome—the liability of damage to inside draperies by rain when the windows are left open. Possibly the solution is some sort of overhanging hood, or this practical consideration might even take us back to the overhanging cornice.

Thursday, June 2.—There is a strength in sentiment and historic association these days, after all, which constitutes a powerful force. Waterloo Bridge, London, opened in 1817, was to have been torn down and replaced, as noted in this Diary on March 12. The Englishman's affection for the old structure, however, has now prevailed, and the demolition been abandoned. It is likely that the bridge, instead, will be widened and strengthened without altering its appearance any more than is necessary.

Saturday, June 4.—Up to Saratoga Springs, N. Y., the main street of which shows a collection of architecture from the gay nineties which really should be recorded before it passes into oblivion—possibly the lowest æsthetic watermark ever reached by mankind.

Monday, June 6.—Julian Levi says that the Architects' Emergency Committee, of which he is chairman, has provided more than forty-three thousand days' work for unemployed architects and draftsmen at the emergency rate of five dollars a day.

Wednesday, June 8.—The battleground of the styles seems to have left rather undisturbed the realm of the individual house. With all of our insistence upon functionalism and the use of modern materials, we seem to have more or less tacitly agreed that a man's home is not necessarily governed by the principles that dictate his office building, garage, or theatre. James C. Mackenzie, Jr., a New York architect, speaking before a group of home owners and members of improvement associations in Yonkers, pointed out a middle course between the extremes of functionalism and misguided romanticism:

"The fisherman's hut or uncultured farmer's abode, though abounding in picturesqueness and romanticism acquired through years of weathering, becomes merely theatrical when adopted as the model for the home of a twentieth-century gentleman in a developed environment. . . . The best architecture is the honest interpretation of the requirements of the period, and consistent with the materials and methods of construction of the period. Human nature does not change, however, and the inherent demands of our natures still work to influence and control our architecture."

Thursday, June 9.—*The Federal Architect*, a publication of The Association of Federal Architects in Washington, has a lot of editors, so that it is difficult to assign credit accurately for the many good things one finds in its pages. There are some particularly pertinent remarks in the April issue on the present state of the profession. With the large increase in the amount of work entrusted to architects in private practice, the Federal men have had the opportunity of seeing all sorts of work and methods as these vary from Maine to California.

"In that pageant of working drawings there have been those indicative of architecture at its best, drawings beautiful in design and presentation, studied as to the methods and construction necessary to realize beauty. But such drawings have not been in the majority.

"The drawings have tended rather to prove the theory of carelessness and lack of understanding. The matter of design has run from this to that. It may be said in its defense that much of it is in the individualistic modern spirit which knows no law; and that only completed construction can prove its excellence or lack of it.

"Architectural design may possibly, therefore, be left to the large jury which will later view the projects that are now merely working drawings. But the practical things concerned with detail, the selection, protection, and interrelation of materials and the time-honored matter of draftsmanship which was once the bulwark of the profession, are present concerns.

"As one goes through these drawings he gets the impression that Sparta is no longer Sparta—that we have come to easier times. We are confronted with the man who shows no jointing because he 'does not want to commit himself.' Compare that with the elder day when one slaved over joints as an inherent part of the design, striving to prevent feather-edges, studying the proportions of individual stones, considering beds, reveals, corners, and interrelation with structural forms.

"It is believed that there should be a return to the more thorough methods of former days."

* * *

Saturday, June 11.—Dr. Leicester B. Holland, Chief of the Division of Fine Arts, Library of Congress, who incidentally is chairman of the A. I. A. Committee on the Preservation of Historic Buildings, says that this epoch is going to be noted hereafter for its lavish use of funds on public buildings. Our stores, offices, and theatres, which a century ago were of almost no architectural consequence, have today assumed prime importance. The interest of the most wealthy citizens in their homesteads is tending to decrease, largely due to an increase in mobility. The maintenance of several residences instead of a single one dilutes interest in the homestead. Thus all mobility is extending down the scale with a consequent tendency to lessen interest in one's own house. It is possible that we are drifting rather easily into group housing.

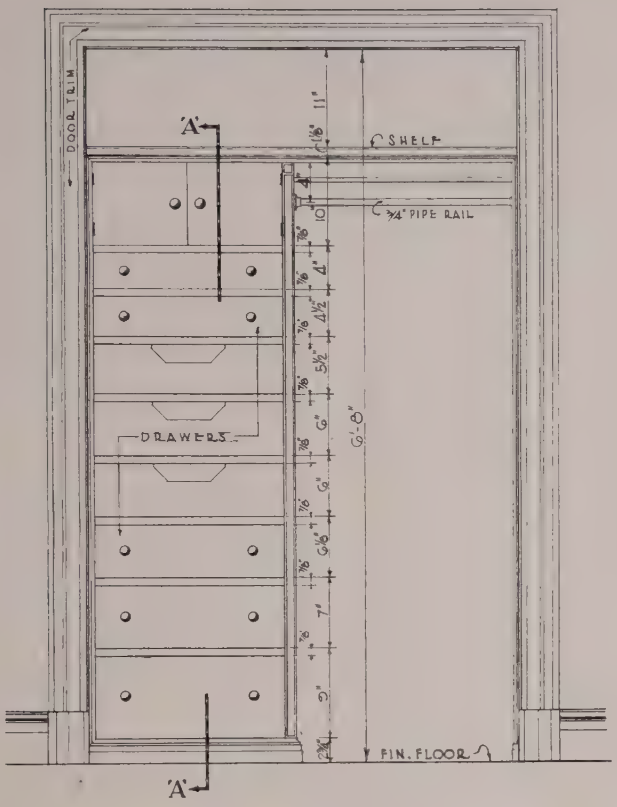
Monday, June 13.—C. H. Landwehr says that the public demand for air-conditioning has been moving at a tremendous rate even through the depression, and as a result what is virtually a new national industry is being developed. Mr. Landwehr says that more than 20 per cent of American homes will be mechanically cooled during the next five years, and that 75 per cent of all new homes will incorporate air-conditioning equipment. Mr. Landwehr apparently includes summer cooling in the scope of air-conditioning, which makes us doubt his prophecy. There is no doubt whatever that complete air-conditioning is coming rapidly for most buildings, but we venture to doubt that it will come with such rapidity in the suburban or country home. There is one great big drawback: until we undergo a marked physiological and psychological transformation, we are not going to keep our doors and windows closed at all times, and without such complete isolation of the included volume, summer cooling is not practicable.

Wednesday, June 15.—Wirt C. Rowland, speaking before the Michigan Society of Architects, packed a great deal of wisdom into his address on modernism:

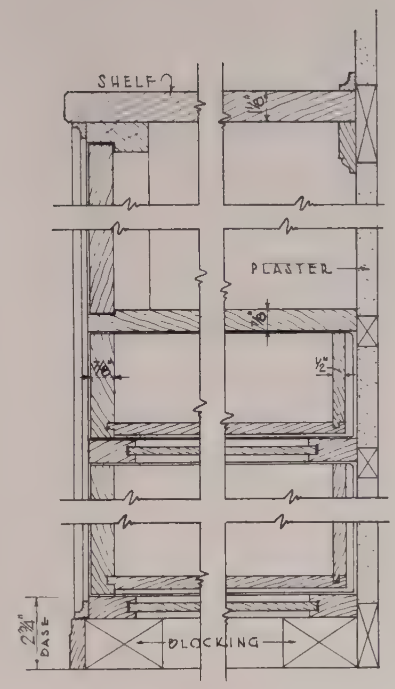
"Architects who quail and rebel at the vast paraphernalia of practical requirements in these days do not belong in this age. Especially when they try to disguise them by the precious relics of antiquity. A very nationally prominent architect and mural painter once replied to my statement that the aeroplane was the finest existing example of architecture, by saying that it would become so when we should begin to beautify it.

"The hitherto æsthetically unsurmountable problems can be met with order. I do take issue with those Europeans who go out of their way to fling rows of pipes in one's face. To begin with, it is not modern heating and, after all, the pendulum has swung beyond its bearing. My quarrel is with the architect who first tries to cover up with useless scenery, who encourages it in public, fosters it in his patrons—who for the sake of exterior effect puts the light in the wrong end of the room, in the centre, or on the corner. He is afraid of the labor of a new thought, or lacks the ambition to establish an order which does not give the fond traditional effect."

Thursday, June 16.—R. Guy Cowan, on the basis of twenty years' experience in making and marketing products which required an æsthetic appeal, says that the first and most important possibility of appeal is through color; the second through line and form. Curiously enough, however, he says that if it were possible to use music as a method of attraction, it would rank well ahead of the other two. Reduced to a percentage of population, 90 per cent of people react emotionally to music; 75 per cent to color, and 25 per cent to line or form.



ELEVATION



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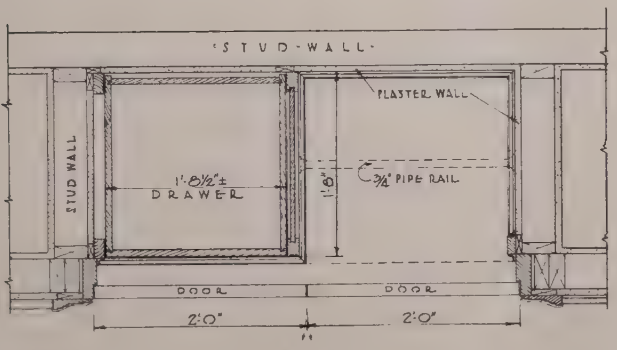
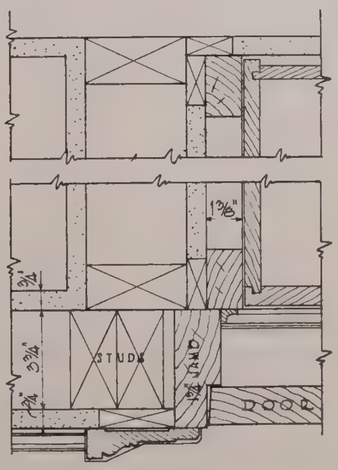


PLAN



DETAIL

· DETAIL · OF · BUILT-IN · WARDROBE ·

A SERIES OF WORKING DRAWINGS BY JACK G. STEWART

·NO · SCALE·

·PLATE · Nº 27·

Friday, June 17.—Arthur K. Hyde told the Detroit Chapter, A. I. A., and the Michigan Society of Architects in a recent address a lot that was wrong with architecture and architects. The advent of steel some fifty years ago marks an important turn in architectural history. Although it became a serious rival of masonry, our attitude toward it, even after half a century of experience, is that steel is something to be covered up with a skin of masonry. That is poor æsthetics and poor construction. We have been almost as backward in learning how to use reinforced concrete. Architecture must be something more than a skin.

Saturday, June 18.—In these days when Federal aid to large-scale housing may become a reality, it is well to make note of the warning issued by the Housing Section of the Welfare Council of New York City: 1—Federal aid should be allocated only on the recommendations of State boards of housing or State housing committees, the aid taking the form of mortgage loans to, or the purchasing of underlying securities of, limited-dividend housing corporations. 2—Create, as an alternative method, a housing authority in each of the States, the Federal Government purchasing the bonds of such housing authorities; the housing authority being given the right of eminence for slum clearance and low-cost housing projects, possibly with tax exemption. 3—Prevent or minimize the expenditure of Federal funds for land purchase. Property owners should be willing to accept for their land, either wholly or in large part, common stock of the limited-dividend housing corporations. 4—The Reconstruction Finance Corporation, before allocating any funds, should lay down certain minimum requirements for housing, on which there is available the advice and assistance of the Division of Building and Housing of the U. S. Bureau of Standards.

Monday, June 20.—DeWitt Clinton Pond was in today, and I was glad to learn that he is instructing architectural students at New York University in the practical matters of everyday practice. Incidentally, we were speaking of specification writing which, it seems to me, is still bound by the stilted phrasing and unnecessary verbiage of past generations. There seems to be a movement on the part of the more progressive architects to reduce the specification to a brief memorandum rather than a discourse on reliability and morals. Unquestionably, the smaller contractor, without careful reading of the old type of specification, regulates his bid, at least in part, in direct ratio with the length of the specification. Ponderous verbiage merely exaggerates for him the size and expense of his task. With a printed set of General Conditions, such as those of the A. I. A., a specification need be little more than a list of materials and their relationships. Of equal importance, almost, with the contents of this list is the grouping of its provisions according to the trade customs in any particular locality.

Wednesday, June 22.—Princeton honored Cass Gilbert with the degree of Doctor of Letters today, and I was particularly pleased to see that in the citation, in addition to the obvious mention of the Woolworth Building, they selected the Army Supply Base in Brooklyn as the other notable example of Mr. Gilbert's artistry. The Army Supply Base is far less widely known, but in my opinion it is well up among Mr. Gilbert's outstanding works.

Thursday, June 23.—Honors continue to come in increasing numbers to those engaged in the fine arts. Yale today conferred the honorary degree of Master of Arts upon Lee Lawrie. Knowing Lawrie's shy modesty, I should not be surprised to hear that the degree was conferred *in absentia.*

Monday, June 27.—Robert Wiseman has discovered a clever scheme for making attractive presentation plans. After working out the plans at eighth scale, say, he has a blueprint made. On this blueprint he pochés the walls with red pencil. He then has a photostat negative (sometimes called a "direct positive") made of this blueprint. The result is a gray background, black lettering and dimension lines (white on the blueprint) and white walls.

Tuesday, June 28.—Everyone is talking enthusiastically of Ely Kahn's statement which he, as Director of the Department of Architecture, issued in the May Bulletin of the B. A. I. D. The architectural students of America, generally speaking, seem to be out in a fog, losing their grasp of fundamental principles. Kahn pulls up with a sharp rein the B. A. I. D. students, with a caution against their failure to grasp the essentials of the plan and their tendency to lose themselves in tricks of imitation and in a repetition of unpleasant modernistic detail. "It (the Jury) particularly concerns itself with studies of the façades that prove, after many months of watching, that the student believes that the beauty of classic architecture is entirely discarded and that arrangements of flat surfaces, rhomboids, rectangles, or what have you, brilliantly rendered in charcoal, may mislead the Jury into thinking that the student is producing architecture. . . . What does seem to be vicious is the realization that the student, in ignoring the fine compositions, the understanding of great designers throughout history, of materials, the meaning of stone and metal, plaster and wood, decides calmly that by the mere discarding of all conventions he can produce something of value. . . . If good proportion, intelligent mass, consideration of the three-dimensional block of the building is sacrificed for the trivial brilliancy of paper architecture, it may be time to push all students back to a study of classic work and forbid the experiments which are now being made."

Wednesday, June 29.—Airconditioning is marching steadily on. The building of the Hoover Dam in Nevada's summer temperatures of 105 to 115 has made it advisable, if not necessary, to house the field and office engineers in a structure which is aircooled, and I imagine out there they will have little difficulty in persuading those who use the buildings to keep the doors and windows closed.

Thursday, June 30.—Harold Buttenheim, editor of *The American City*, sounds a trumpet call against our shortsightedness in laying too much stress these days on budget balancing.

"From Washington and Wall Street comes the word that new municipal bond issues will have Government aid only if they provide for public works which are 'income-producing' or 'self-liquidating.' Let us by all means build 'productive' public works wherever they are needed. Water works and a few other utilities in this category are receiving high official and professional blessing—which we hope will be followed by ample funds for new construction and needed improvements. But let us not allow street, highway and sidewalk improvements, schools, playgrounds, fire and police stations, sewage and garbage disposal plants and other needed and well-planned public works to go into the discard merely because their cost comes ultimately out of the tax pocket instead of from some other pocket. . . .

"The essential distinction, of course, in a programme of public works is its *service*-producing and not its direct *income*-producing character. Wise expenditures for public improvements are reflected in land-value increases sufficient, under a scientific system of taxation or assessment, to cover interest charges and amortization of the bonds. Combining, thus, immediate advantages in jobs for workers and sales for manufacturers with permanent values to the community, we find in a rational programme of well-planned public works on a nation-wide scale our greatest hope for changing the present curse of unemployment into the blessings of renewed prosperity. . . . We have much less to fear from using red ink in our counting-houses than from provoking Red talk in our meeting houses."

CONTACTS

DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE
OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES

Porcelain Enamel for Interior and Exterior

By Charles Bacon Rowley

AT the present time we seem to be confronted with drastic changes in our building requirements. The use of steel has eliminated the necessity of heavy masonry for carrying loads; economy in buildings, in order to get a return on the investment, in most cases is paramount. Protection from fire and minimum upkeep expense are constantly in the minds of building owners.

This modern era has given to the architects many new materials, not only durable, economical, but extremely appropriate for rapid erection. Within the last ten years, in our larger cities, there are splendid examples of buildings where the steel work has been surrounded by a shell of durable material. These buildings have proved conclusively that it is not necessary to spend time and money duplicating heavy masonry columns and porticoes, which every one knows were purely ornamental and have no structural value. One of the problems then, is to find a material which will protect and beautify steel.

Porcelain enamel on steel accomplishes this purpose. This material not only protects the steel from corrosion and the elements, but affords a selection in an infinite variety of colors and textures.

About two years ago, when Mr. Weaver, president of the Ferro Enamel Corporation, asked me how porcelain enamel could be used in the building industry, I was rather sceptical, because my feeling at that time was that porcelain enamel might be very desirable in bathtubs and kitchen sinks, but was not a very practical material to consider for exteriors. The result was that Mr. Weaver explained to me the progress made in this industry, and produced samples of a character and quality which were very pleasing and unusual. It was not long before my own office associates became equally enthusiastic with me.

Mr. Rowley, an architect of Cleveland, at the second annual meeting of the Porcelain Enamel Institute, held last May, delivered an address of which the following is a somewhat abbreviated record. Most of what has been omitted comprised a brief survey of architectural history, by which Mr. Rowley sought to show the inevitable development of style in any period through the use of materials and methods peculiar to that place and people.—EDITOR.

The Ferro Enamel Corporation decided to build in a suburb of Cleveland the first residence, I believe, in this country using porcelain enamel steel sheets or panels for the outside walls, with porcelain enamel shingles on the roof. Many new problems have presented themselves and undoubtedly there will be many others to be solved. There is no doubt that this residence is a forerunner of a new development, not only using porcelain enamel, but steel in various forms as a substitution for wood. It is extremely important that all of us who are interested in the new project should pay particular attention to the manner in which the material is used and displayed, because these first buildings are viewed by the public and the public reaction is extremely important as to the immediate success or failure of the material. Porcelain enamel shingles for use on side walls, as well as on the steep roof surfaces, also panels for walls and spandrels, give to the architect a chance to realize in color what has never before been available in natural materials like slate, or stone. The speed and ease of application of both the shingles and panels as compared with masonry, will not only reduce labor costs but lighten the dead weight. This fact, of course, will reduce the cost of steel framing.

Professor Stulen of Carnegie Tech has used the working drawings of this enamelled house in his class of thirty juniors. He feels as we do, that this is a coming external material and the student body should know of its use. Professor Tucker, at the Massachusetts Institute of Technology in Cambridge, will probably give some time in his next year's course to this interesting product.

Insulating materials are now available so that the transmission of heat and cold through steel is not a problem.

It is extremely necessary that all porcelain-enamel steel should be so packed for shipment that when the material is ultimately placed in the building there will be no exposed edges or surfaces of steel uncoated. It is quite possible that where porcelain-enamel sheets have to be cut, the steel should be of some rustless variety, or possibly copper could be used in place of the steel.

Most of the architectural profession are not in favor of materials which are copied after some natural material; for example, marble, whether from Italy or Alaska, is a distinctive material, beautiful in appearance, and used in large quantities all over the world. To take porcelain enamel and imitate these various forms of marble, while perfectly possible, is not, to my mind, the best way of using porcelain enamel. There are many color combinations and surface textures available in porcelain enamel which not only are beautiful in appearance but do not approach in looks any of the natural materials; therefore, why create a substitute and possibly have porcelain enamel referred to as a cheap imitation of a real material?

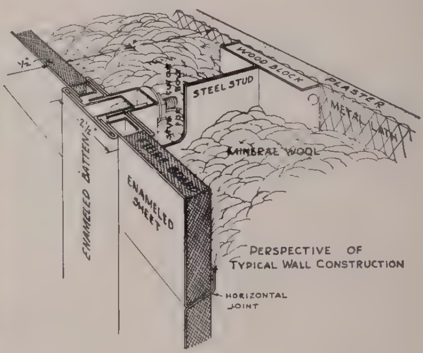
Inside surfaces of buildings naturally lack many difficulties from dampness and moisture encountered with exterior surfaces. The Youngstown Pressed Steel Company, at Warren, is now producing porcelain-enamel tile of extremely pleasing color. Within the last few weeks we have had a bathroom completed where a combination of this material in green and black made a very beautiful wall treatment. In the residential field of building construction, there are many rooms where porcelain enamel can well be considered; bathrooms naturally come immediately to the foreground, but there is growing demand for wall surfaces in kitchens to be treated with color and easily cleaned. Similarly in breakfast rooms, butler's pantries, recreation rooms, and possibly wainscoting in vestibules and stair halls. Some thought is being given to the use of porcelain enamel for trim around windows and also for doors, baseboards, and windowsills. It is not unlikely that steel sash and frames may be protected and beautified with this material.

In commercial buildings the field opens up to even a wider extent than in residences: for instance, lobbies of office buildings, corridors, possibly elevator cabs, and in general those surfaces where cleaning operation is not only necessary but expensive. Consider for a moment the amount of area in subway stations, not necessarily in the station itself, but on the opposite walls, where at the present time either glazed brick, tile, or terra-cotta has been used.

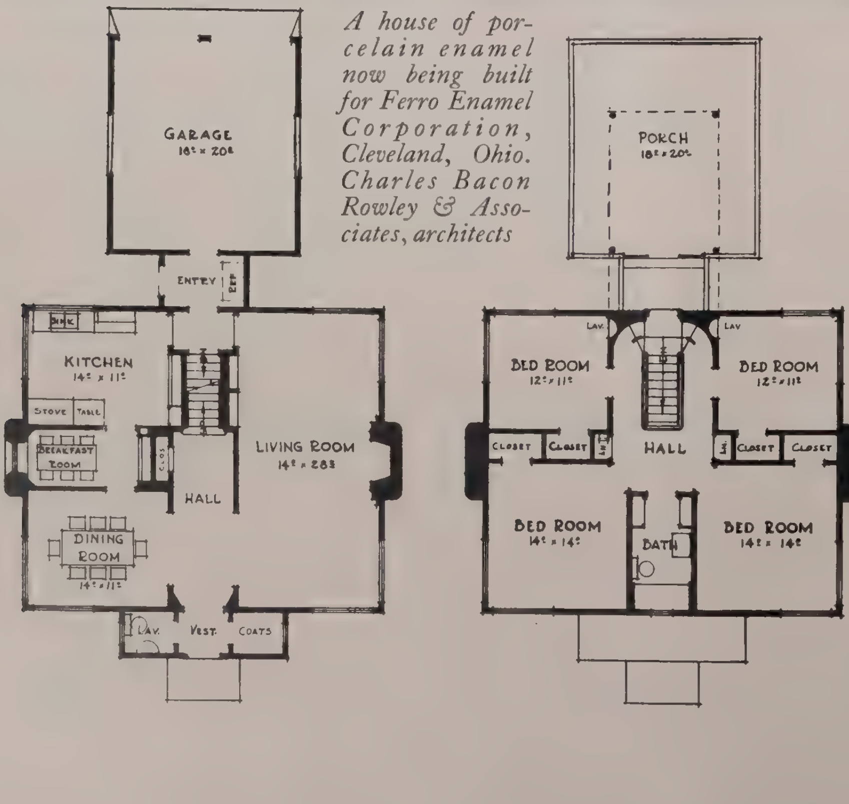
In hotels there is a constantly growing demand for either grill rooms or cafeterias where a combination of color and design produces striking contrasts and what some people call "Modern Design." Porcelain-enamel panels with specially designed battens, as well as ornament coated with porcelain enamel, give the architect an opportunity to create new and novel interiors probably less expensive and more striking than if marbles and some of the natural materials were used.

There is no doubt in my mind that porcelain enamel is a material not only bound to attract attention, but is a material which the architects will use in large quantities in their future designs. Undoubtedly, as new applications develop, the manufacturers will be able, getting into quantity production, to reduce costs and find a means of cheaply covering curved surfaces, which is often necessary in design.

It seems to me extremely necessary, when working with this vast amount of material and resources, that we should not go wild. I do not think it necessary to build freakish things in order to cause what some people term, "a building that is a knockout." It is highly important that we not forget the history of the beautiful buildings of the past, and with the modern materials now available we should keep in mind not only the commercial side, but the design, so that in future years our buildings in this modern era will fit properly into the chapters of history, just the same as did the buildings erected in past civilizations.



Perspective of Typical Wall Construction



A house of porcelain enamel now being built for Ferro Enamel Corporation, Cleveland, Ohio. Charles Bacon Rowley & Associates, architects

THE SEVENTIETH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

ARCHITECTURE'S PORTFOLIO OF

WOOD CEILINGS

Subjects of Previous Portfolios Are Listed at Left

1926
DORMER WINDOWS
SHUTTERS AND BLINDS

1927
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

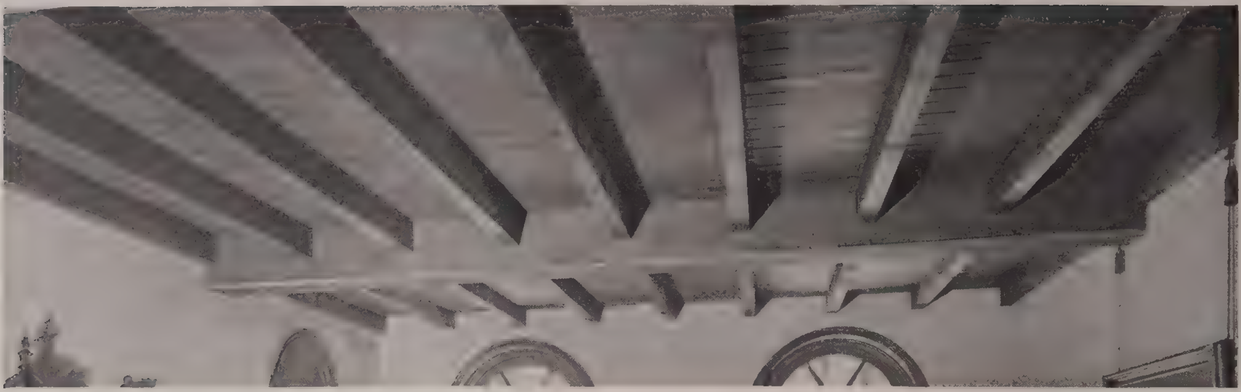
1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS

1931
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNS
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS

1932
RADIATOR ENCLOSURES
INTERIOR CLOCKS
OUTSIDE STAIRWAYS
LEADED GLASS MEDALLIONS
EXTERIOR DOORS OF WOOD
METAL FENCES
HANGING SIGNS

Forthcoming Portfolios will be devoted to the following subjects: Marquises (September), Wall Sheathing (October), French Stonework (November), Over-mantel Treatments (December), Bank Screens (January), and Interior Doors (February). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up about six weeks in advance of publication date.

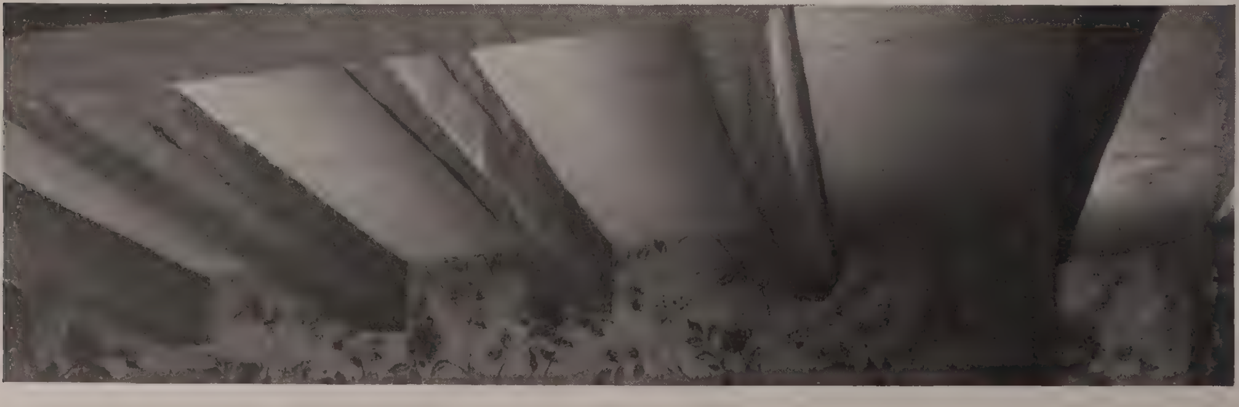


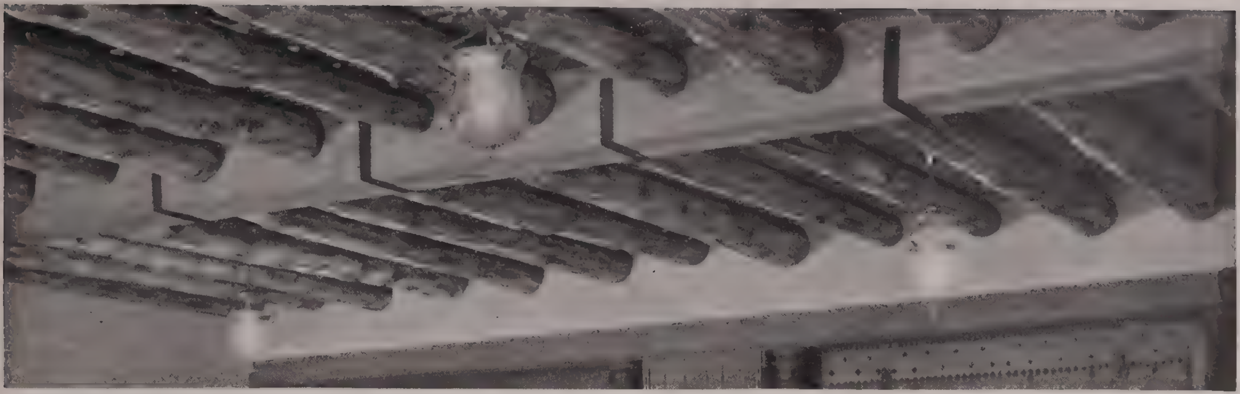
Henry D. Dagit & Sons

John Byers

Nathan Harris and Harry Barton

Wesley S. Bessell





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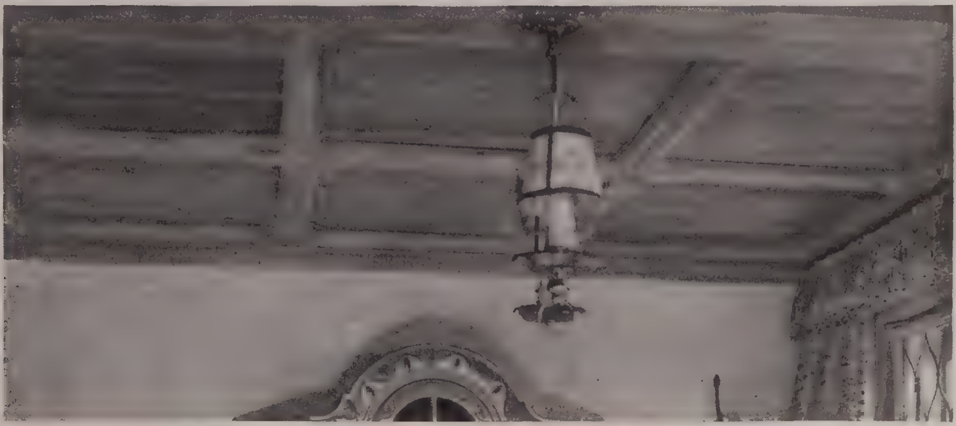
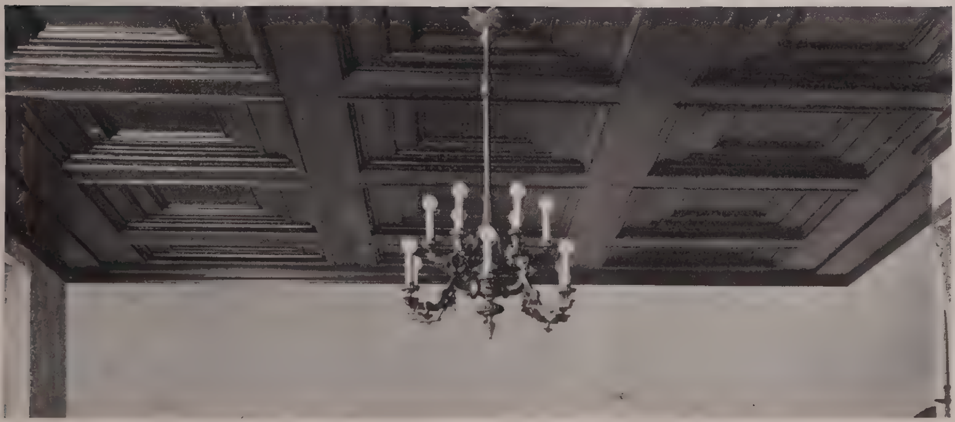
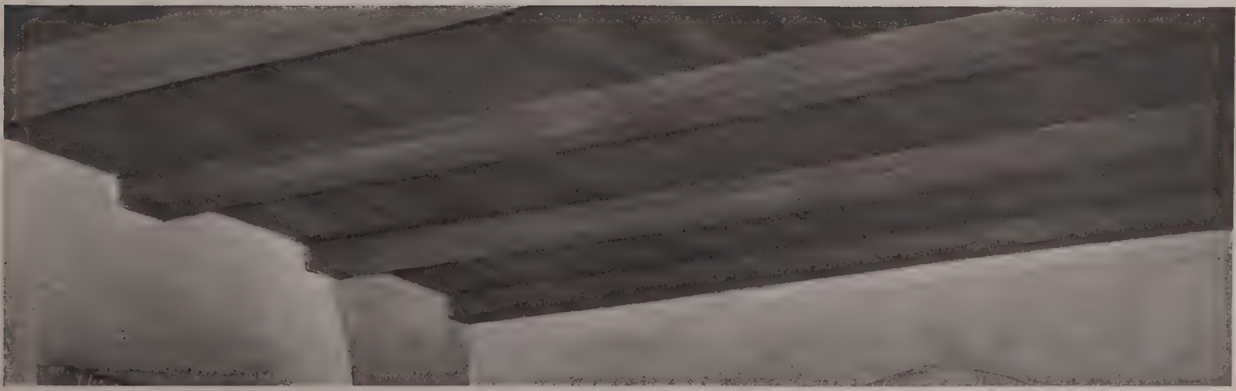


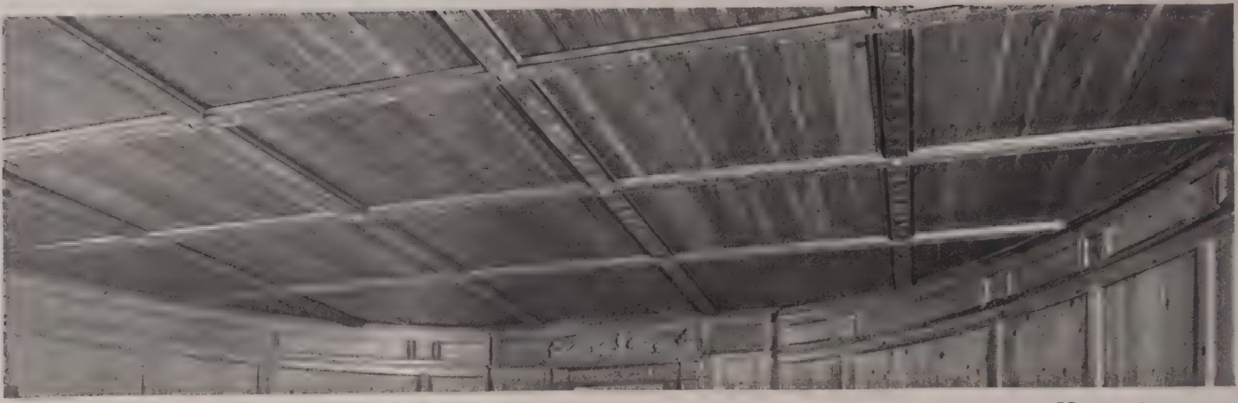
Theo. Hofstatter & Company



Moise H. Goldstein

Roger H. Bullard





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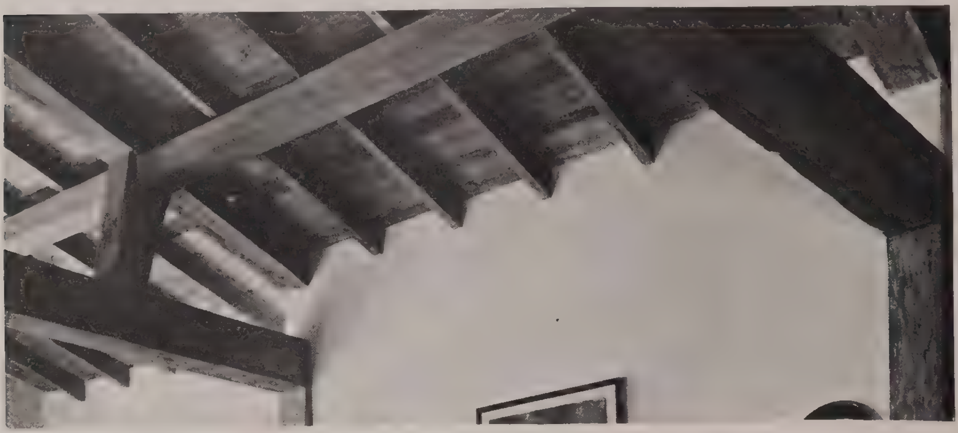
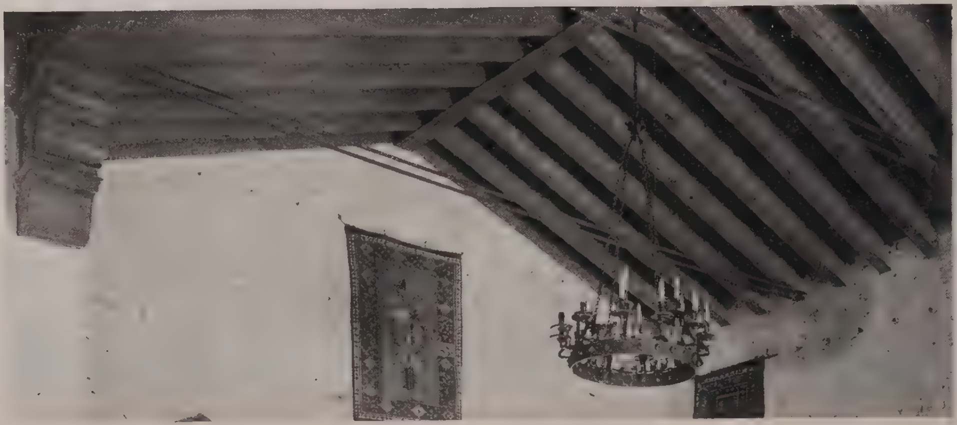


Gordon B Kaufmann

Willis Polk & Company



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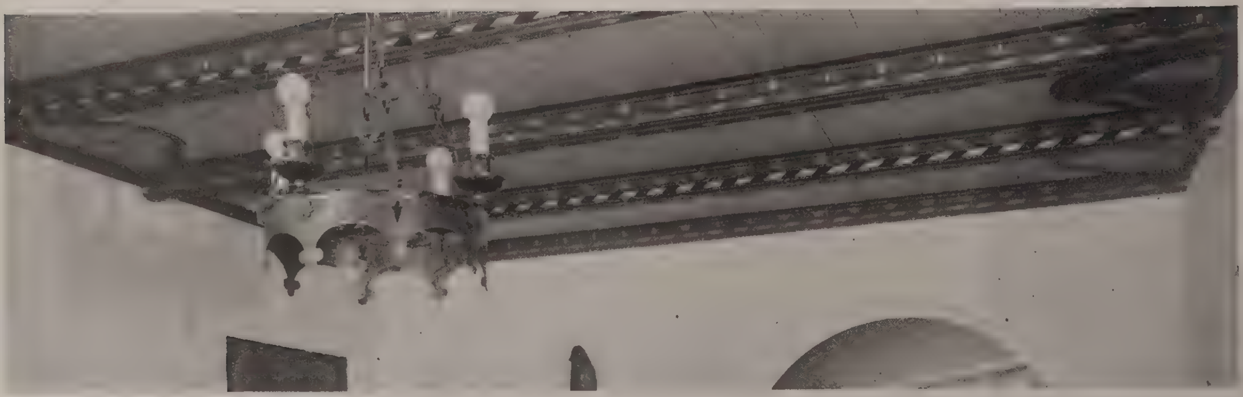
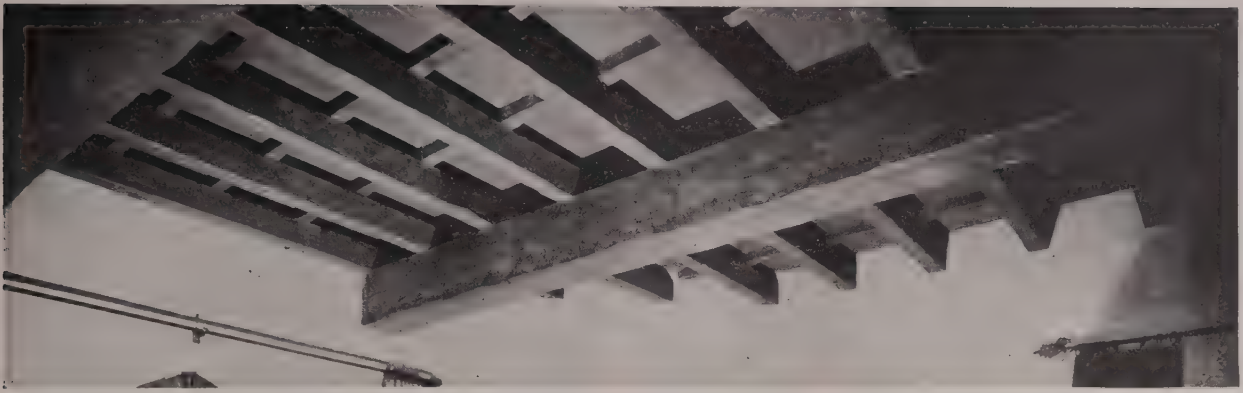
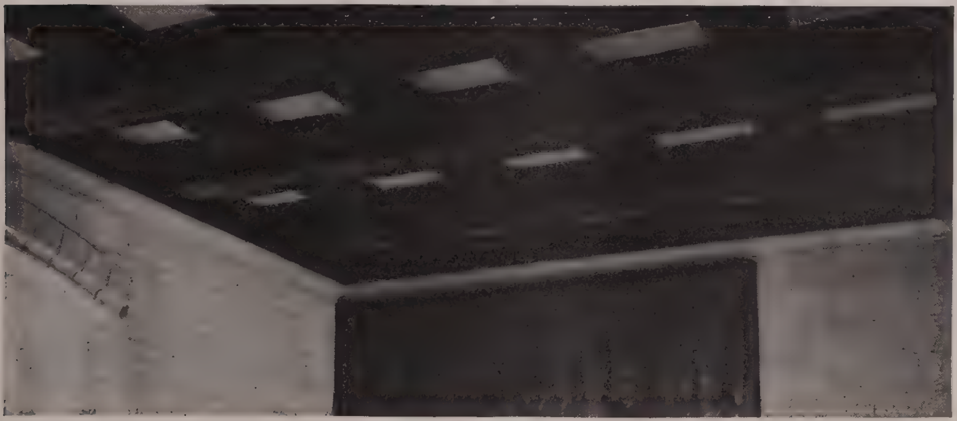




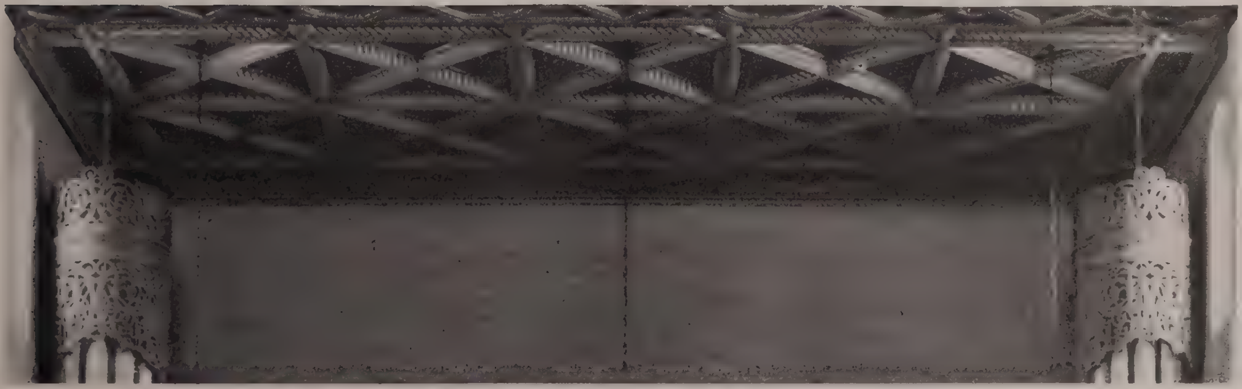
John Byers

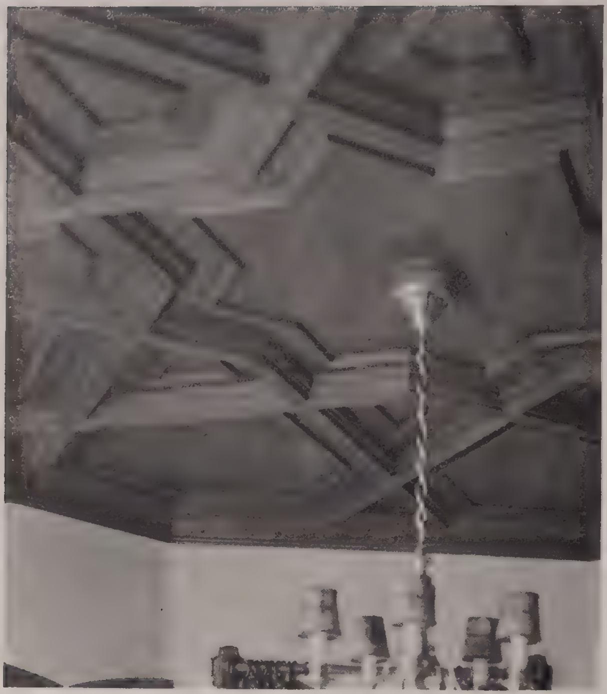
Tracy & Swartwout



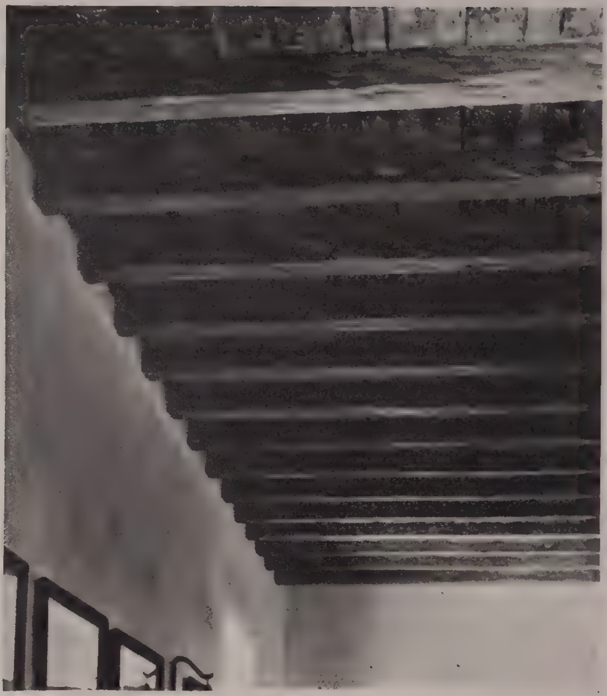
Charles M. Baker

Carleton Monroe Winslow; Frederick Kennedy, Jr.

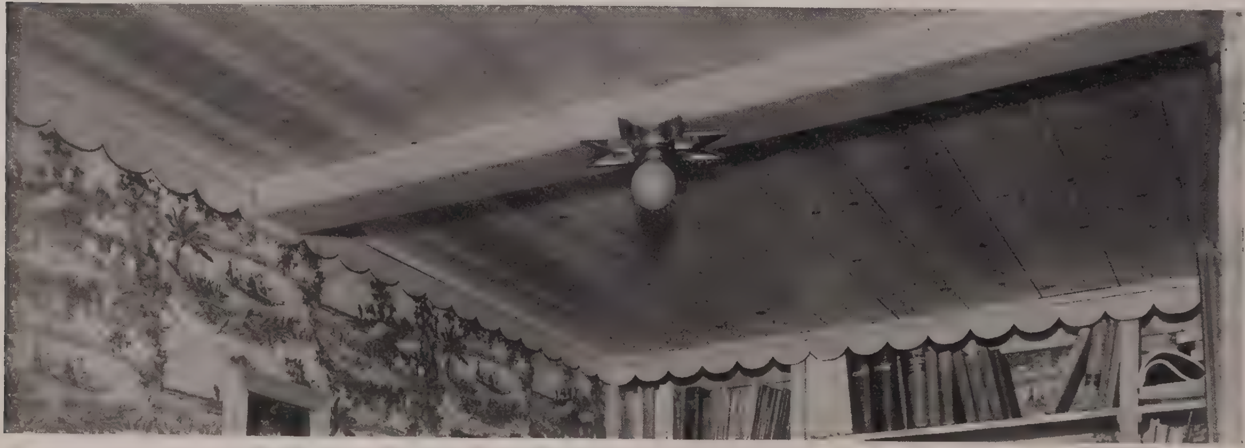




Weston & Weston

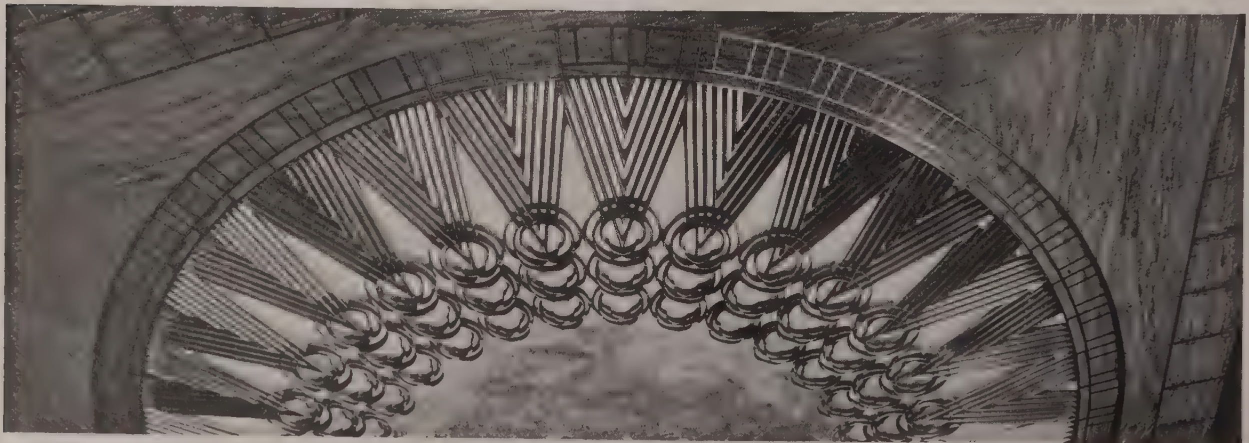


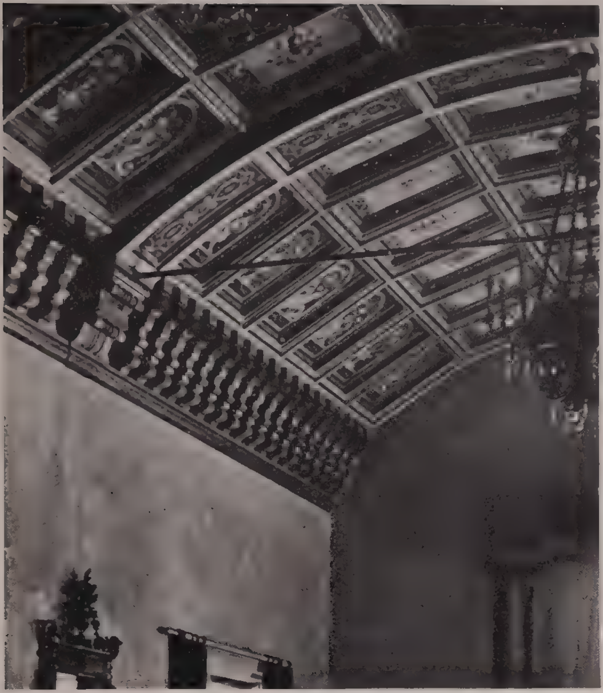
Gordon B. Kaufmann



Godwin, Thompson & Patterson

The Firm of Ely Jacques Kahn





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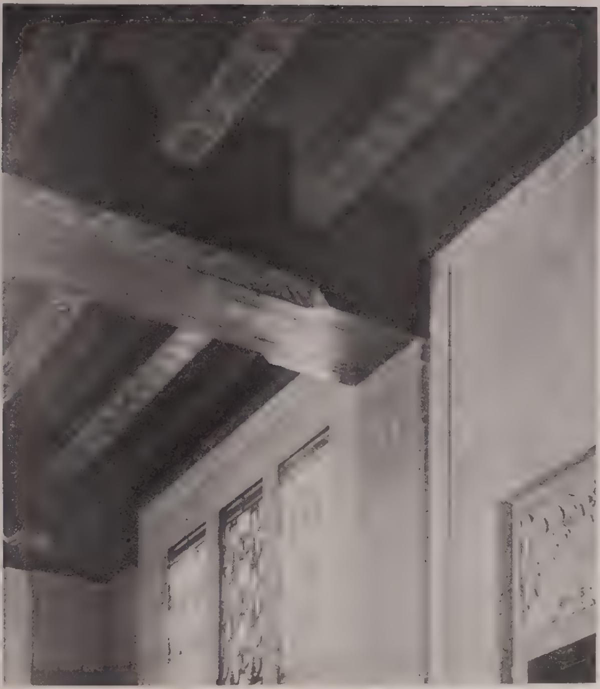
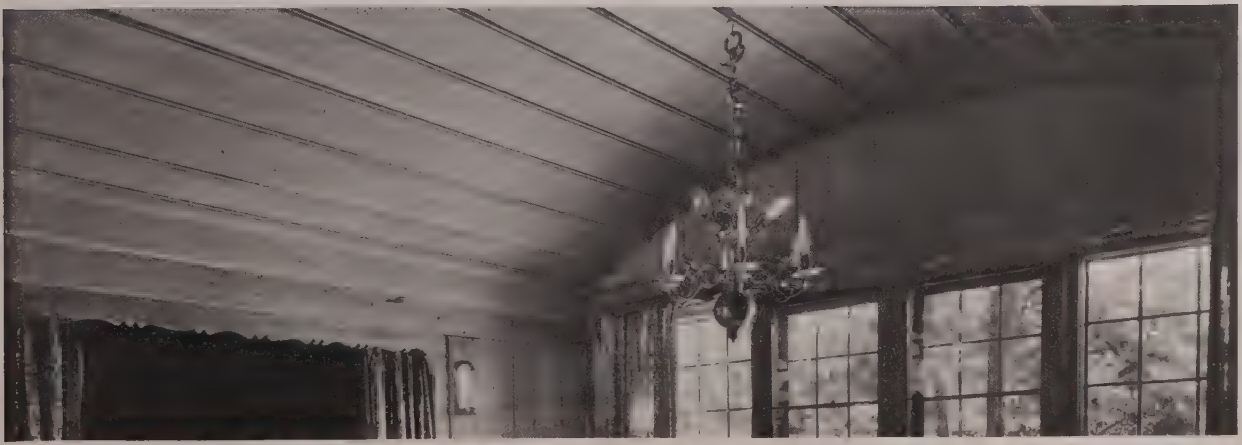
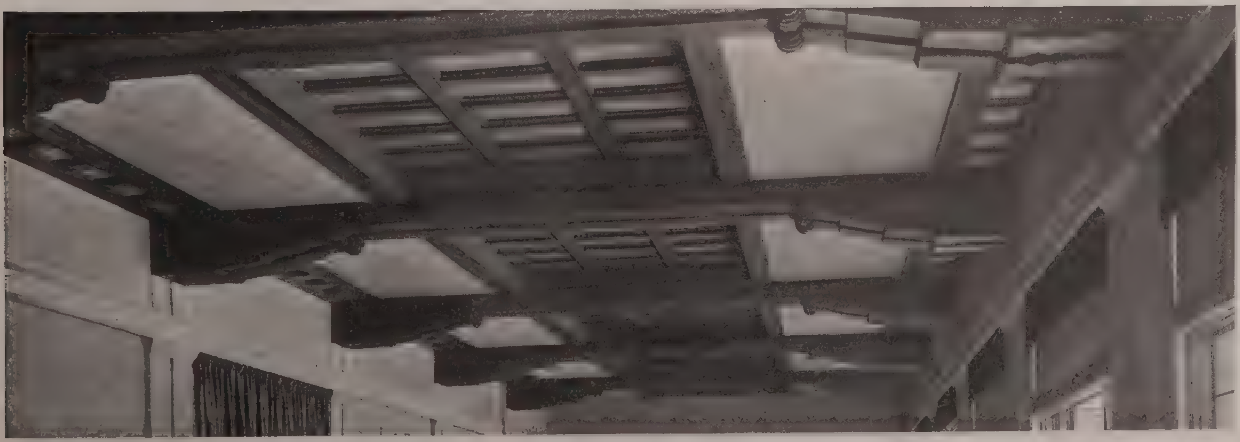


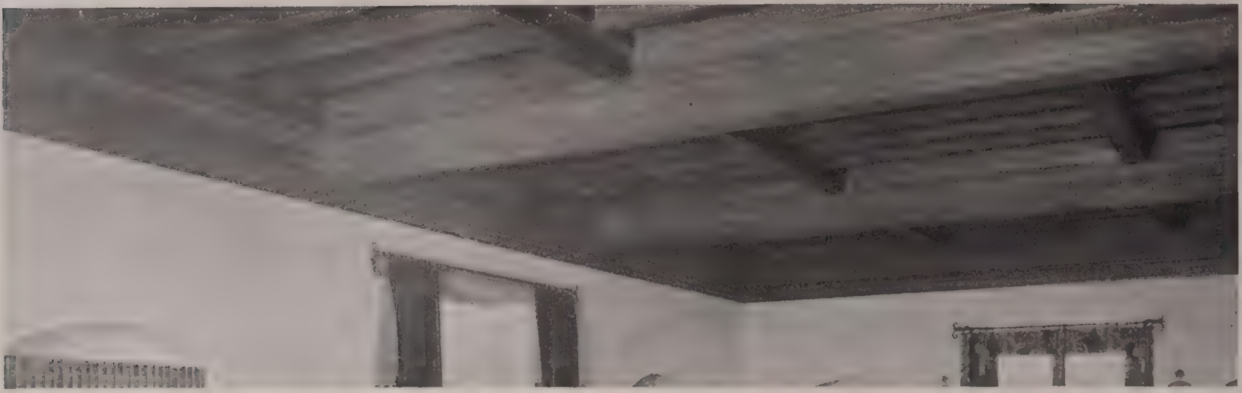
Tilden, Register & Pepper



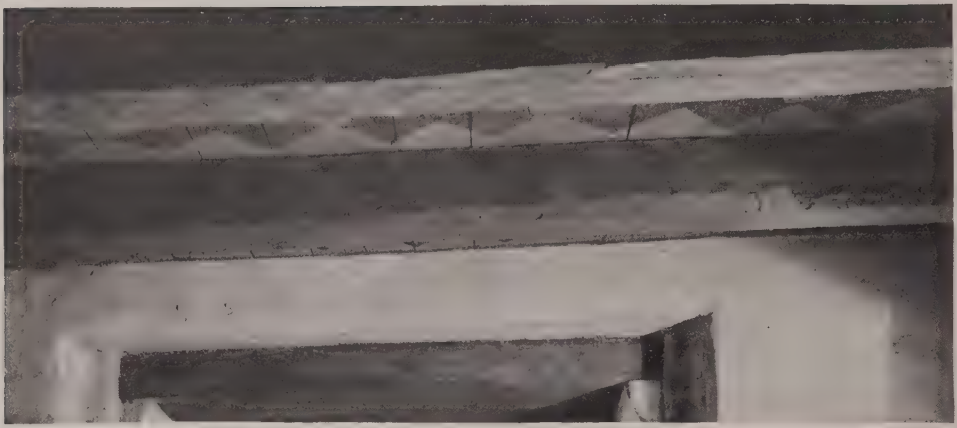
Alfred Mausolff

Herbert A. Magoon; Harvey Wiley Corbett





Gordon B. Kaufmann



Willis Polk & Company

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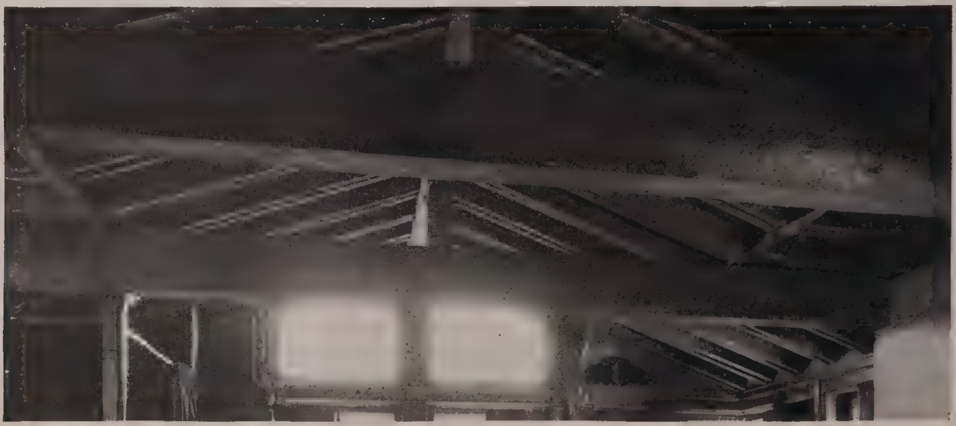
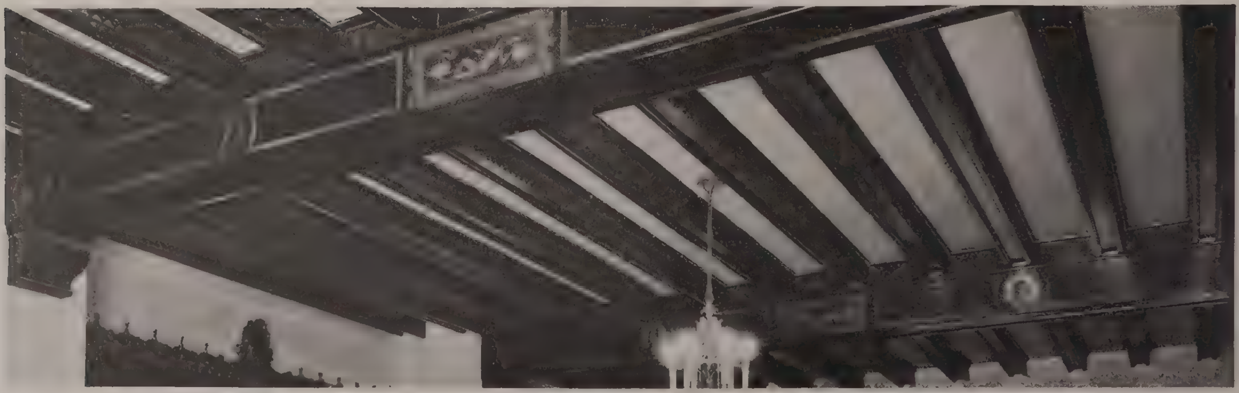
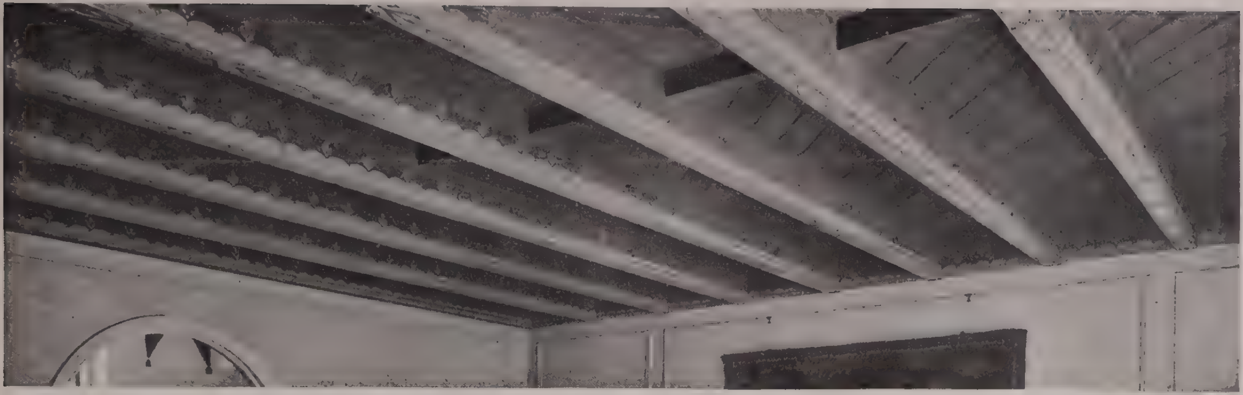
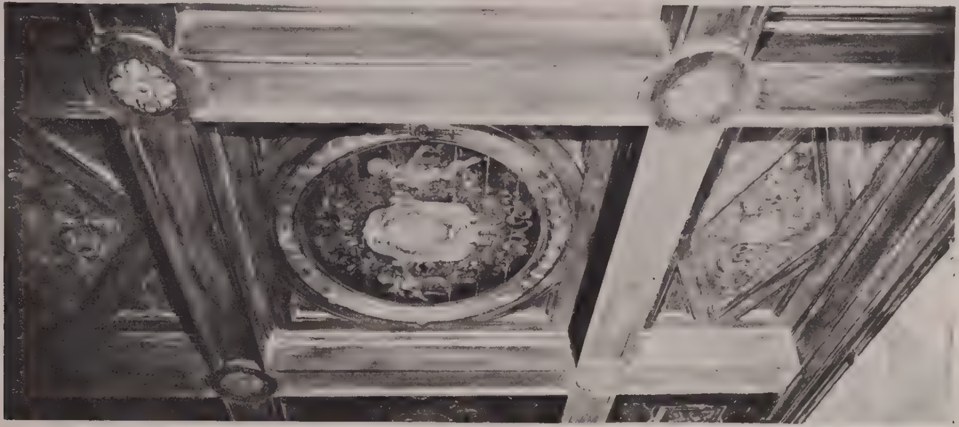


Halpin & Jewell

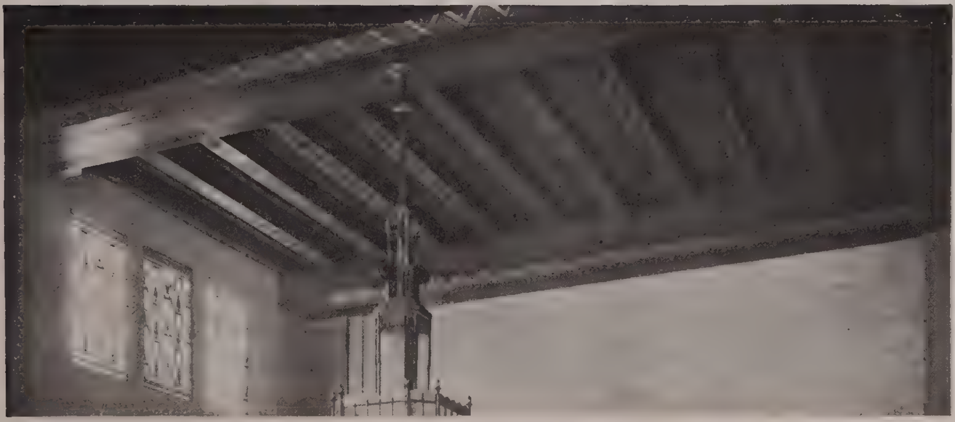




Henry D. Dagit & Sons

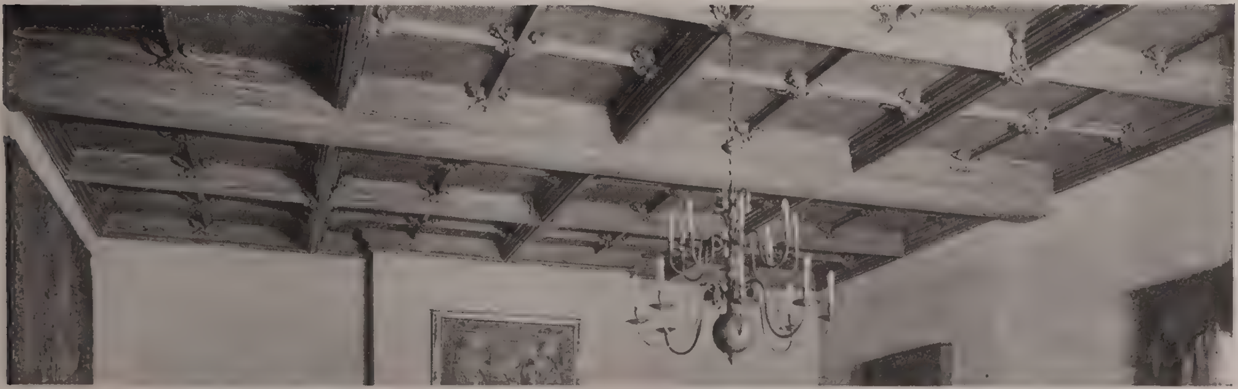


Edward Buehler Delk



Tilden, Register & Pepper

Aymar Embury, II

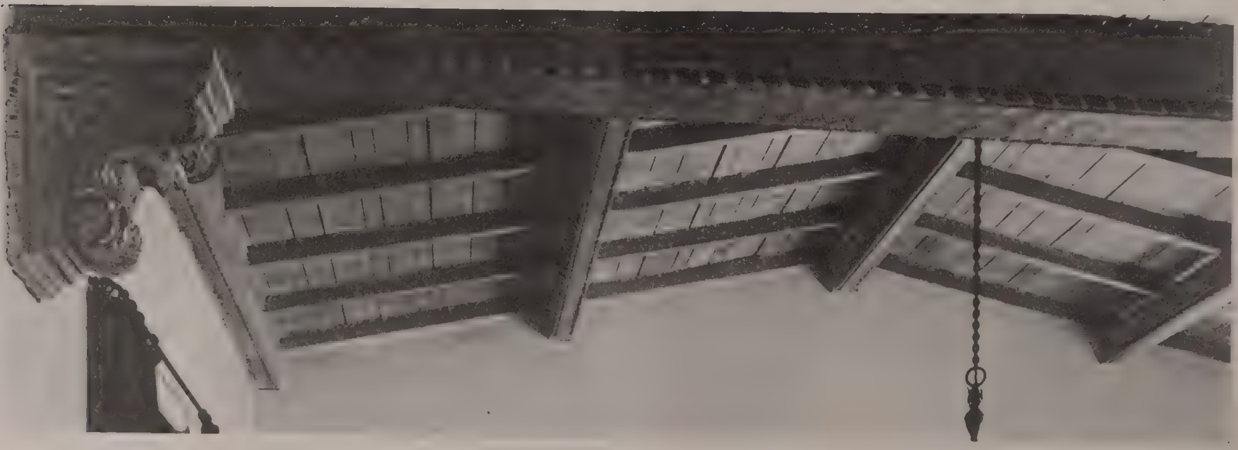


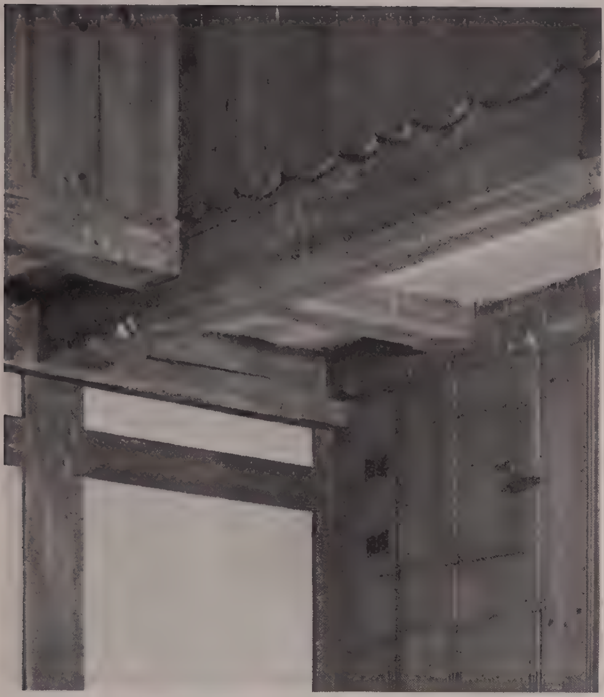
Gray & Lawrence

Moise H. Goldstein

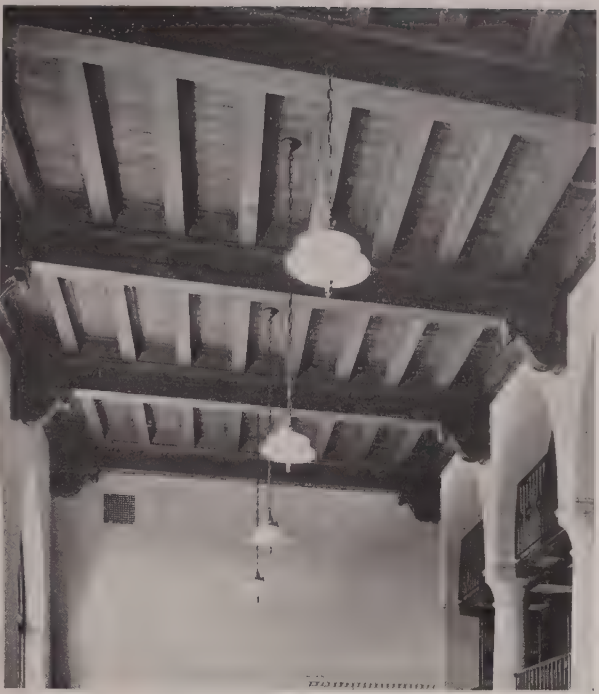
Gray & Lawrence

Gordon B. Kaufmann

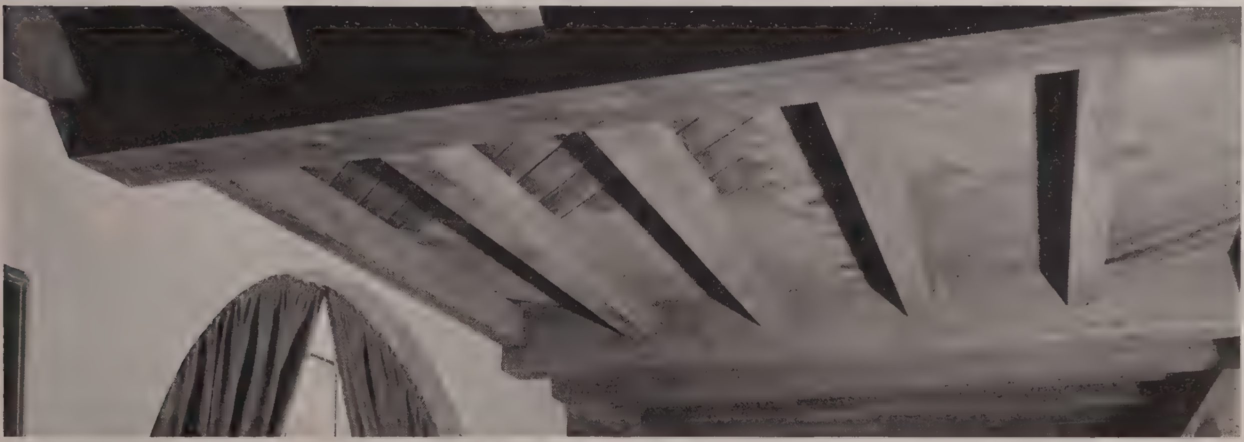




Philip L. Small, Inc.

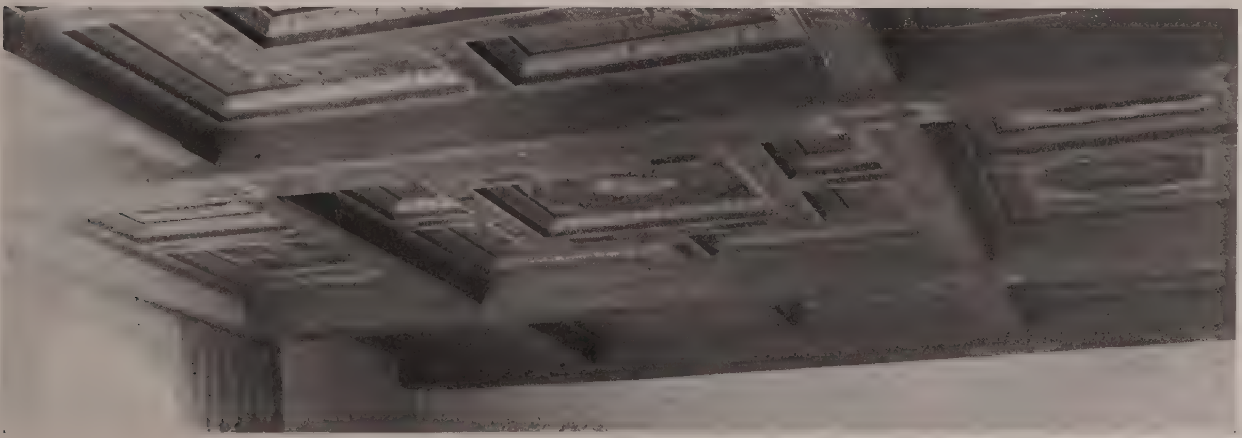


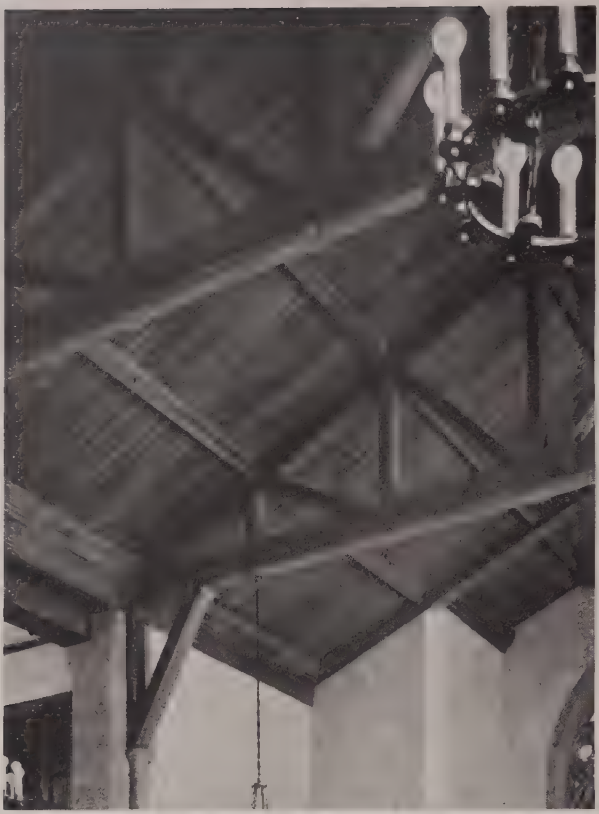
Cram & Ferguson



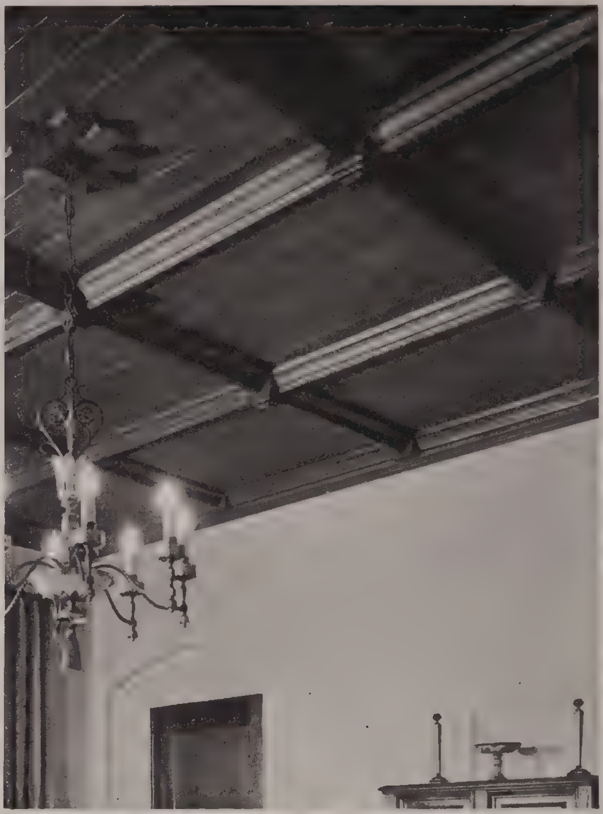
Reginald Johnson

Gordon B. Kaufmann



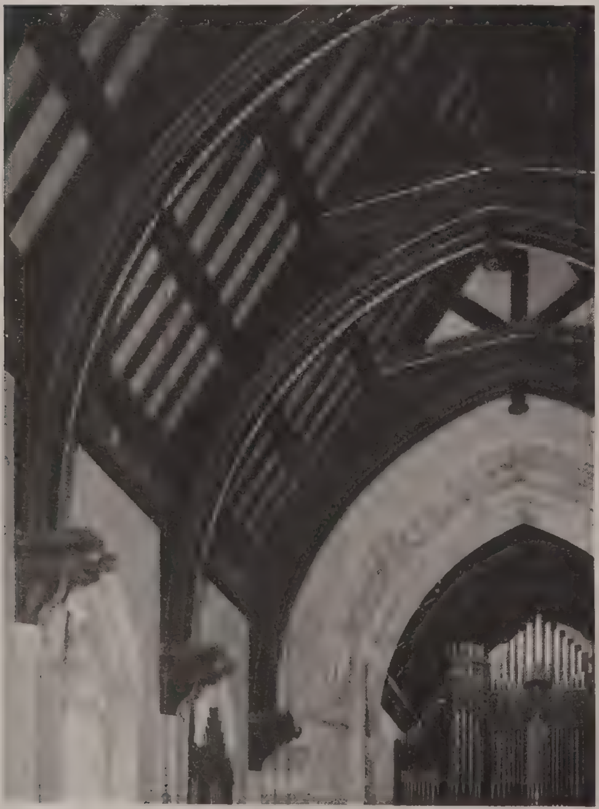


B. G. Goodhue; B. G. Goodhue Associates; Walker & Weeks

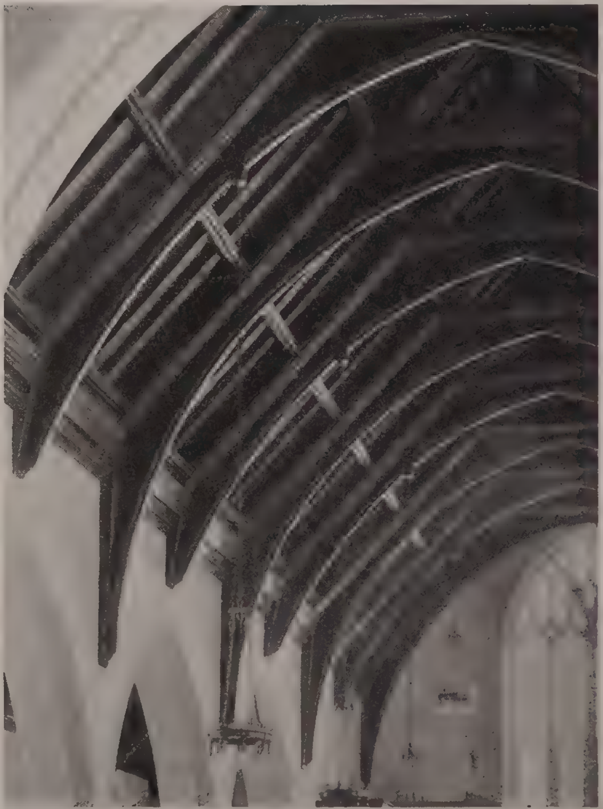


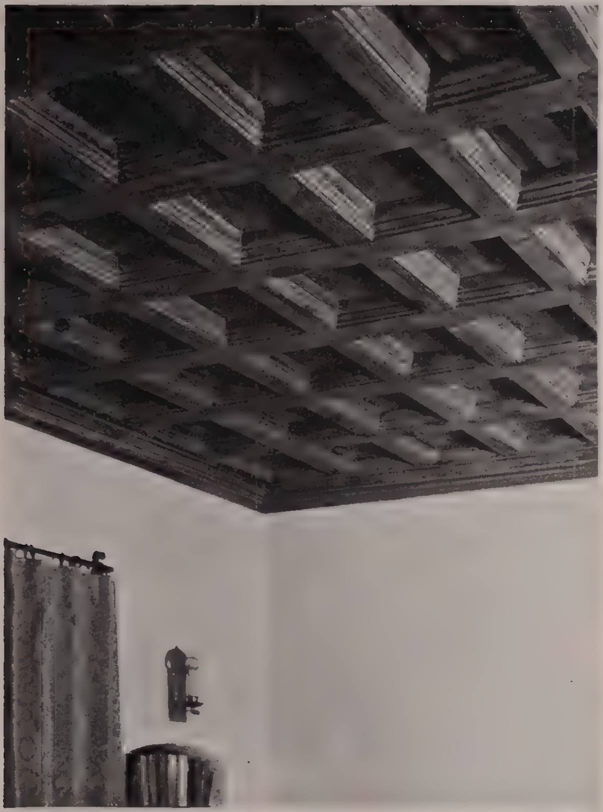
C. K. Denman

Smith, Hinchman & Grylls



Cram & Ferguson





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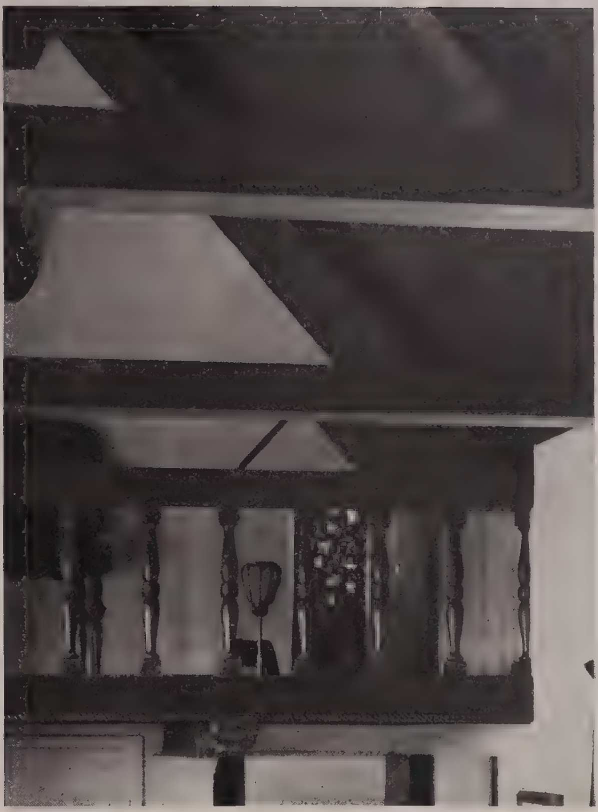
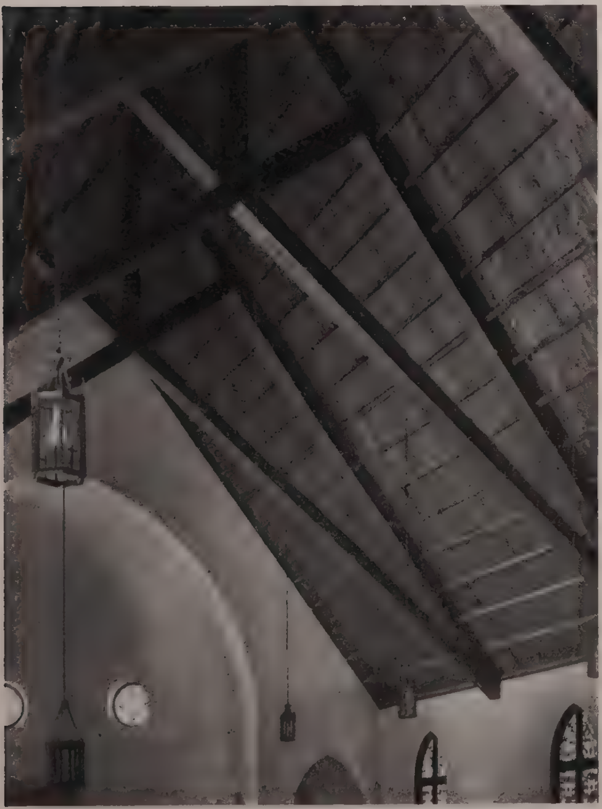
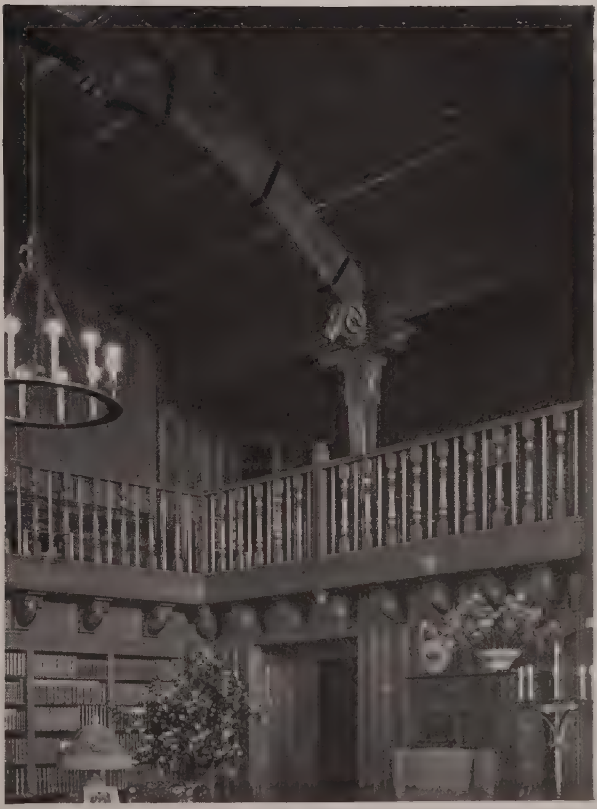


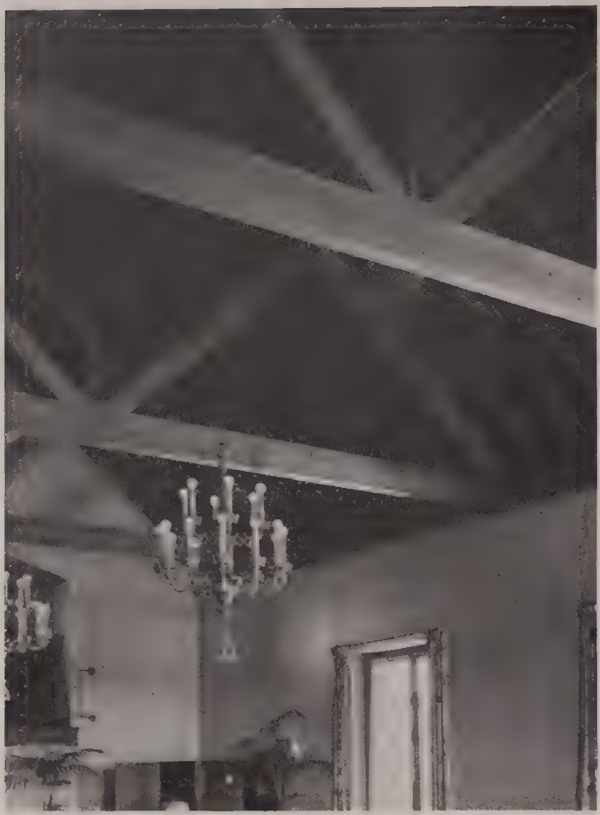
Roy Seldon Price

James W. O'Connor



Herman Brookman





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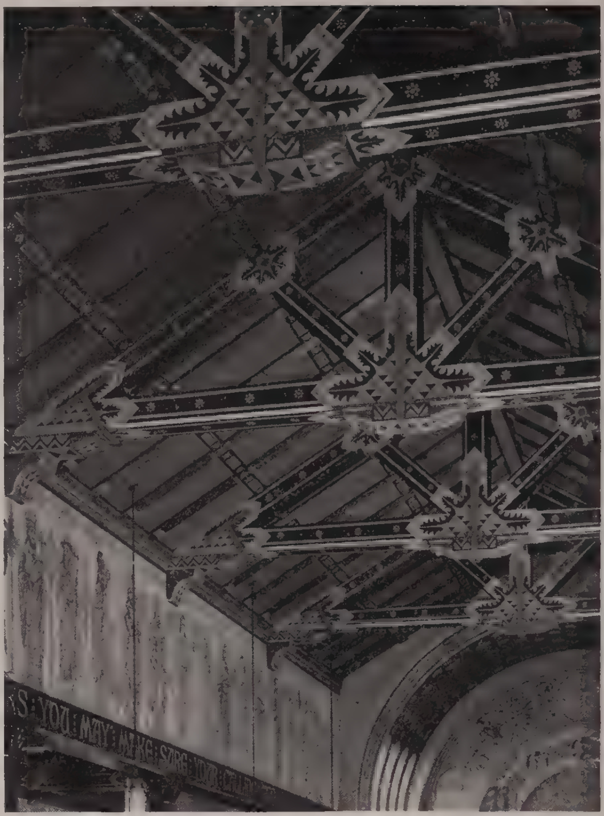
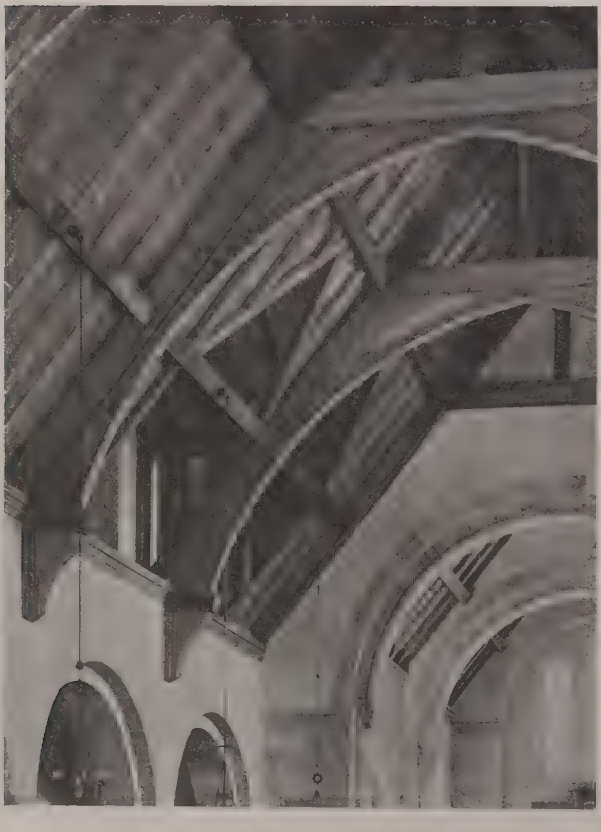


William Koehl; Rambusch Decorating Company

Roger H. Bullard



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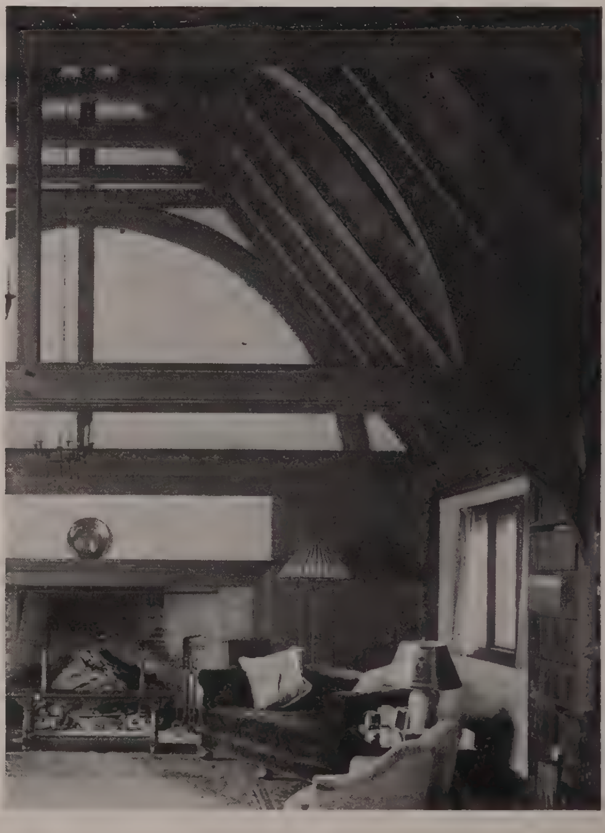
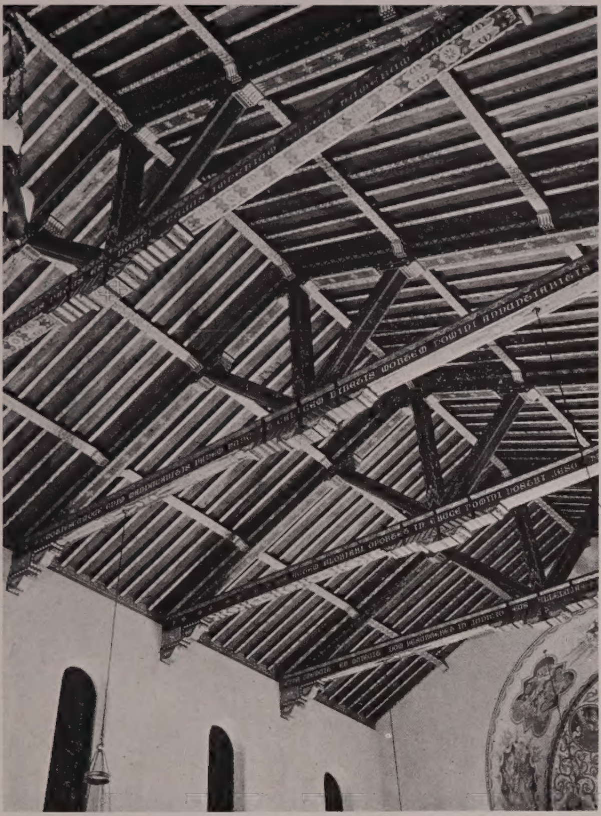
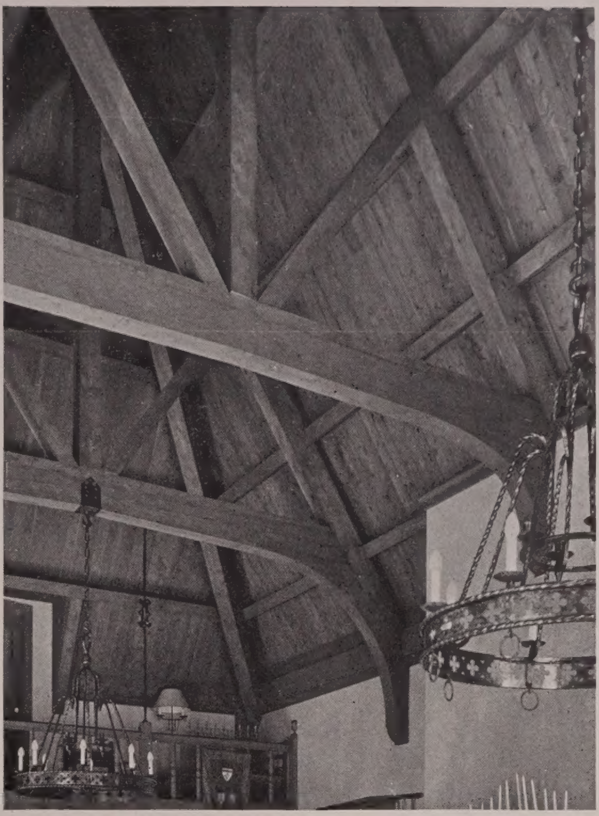




Karl G. Schmill; Rambusch Decorating Company



Tilden, Register & Pepper

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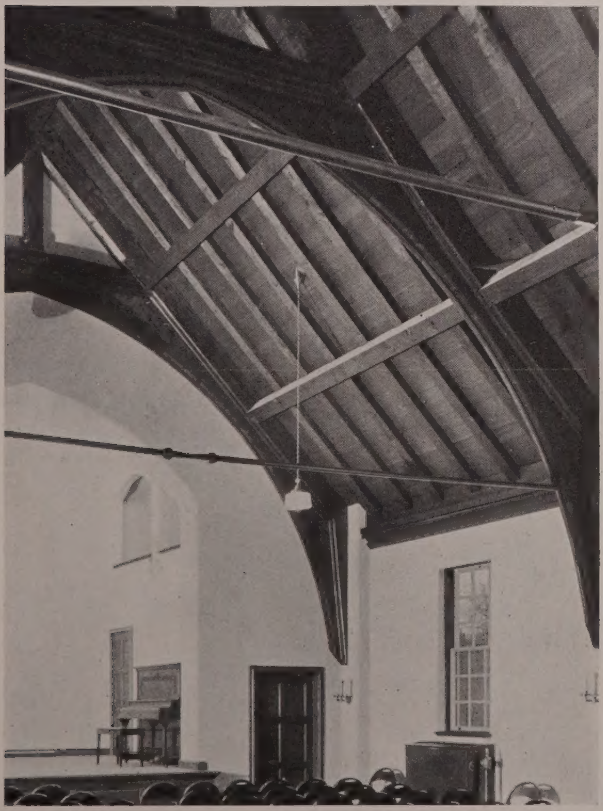

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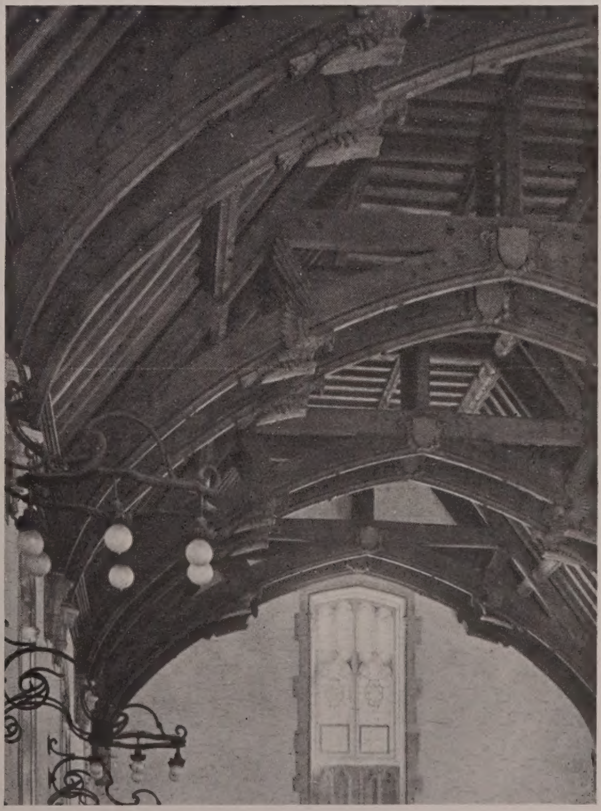
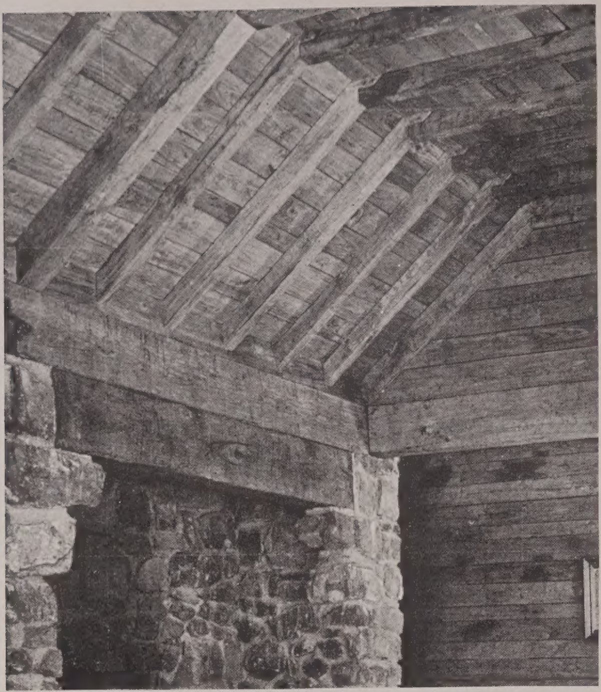
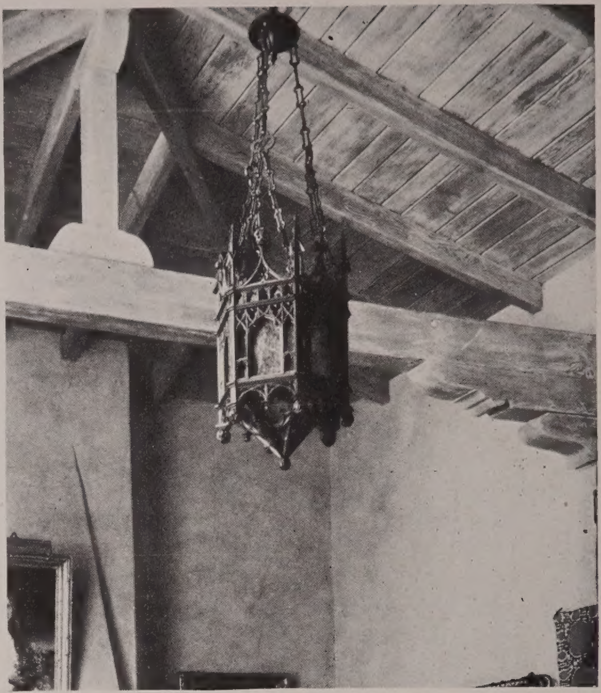
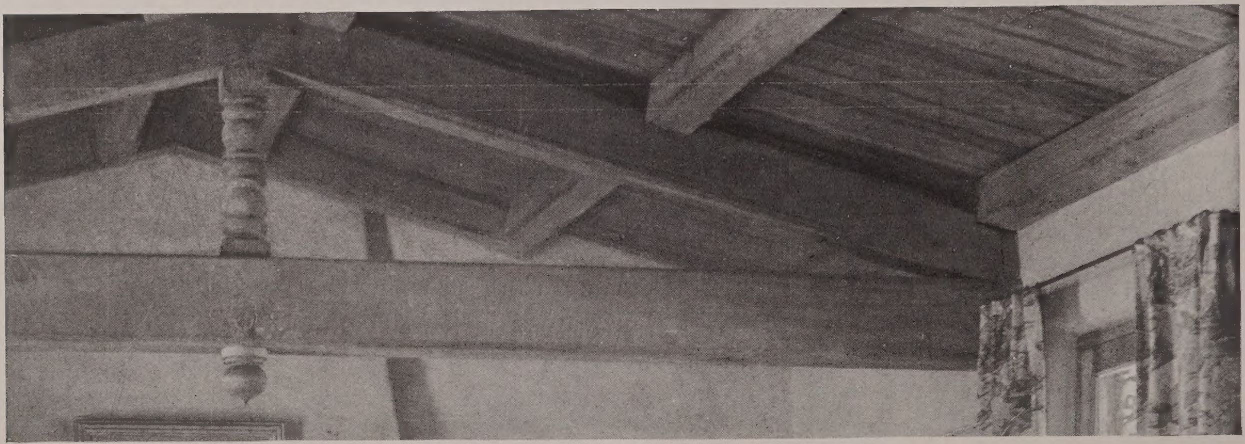




Clarence S. Stein

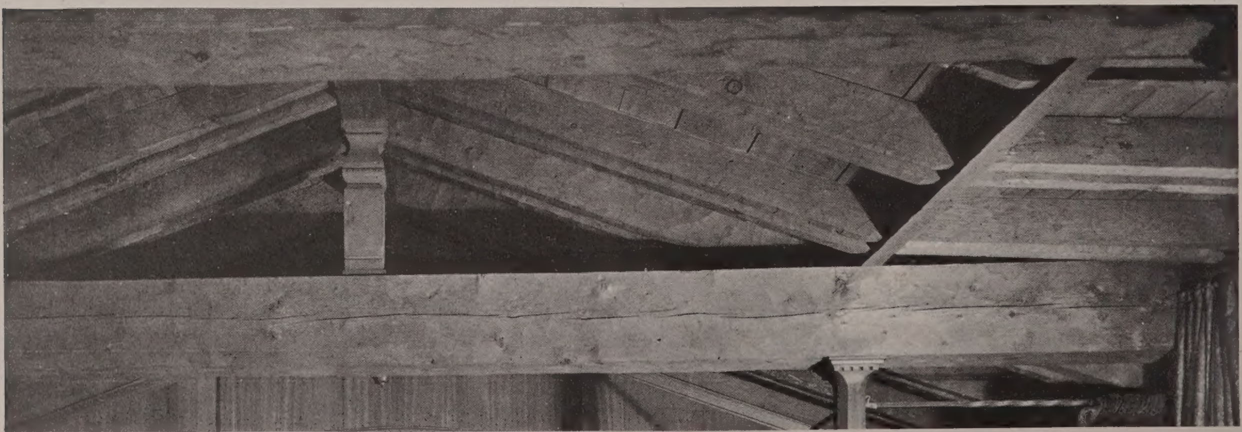


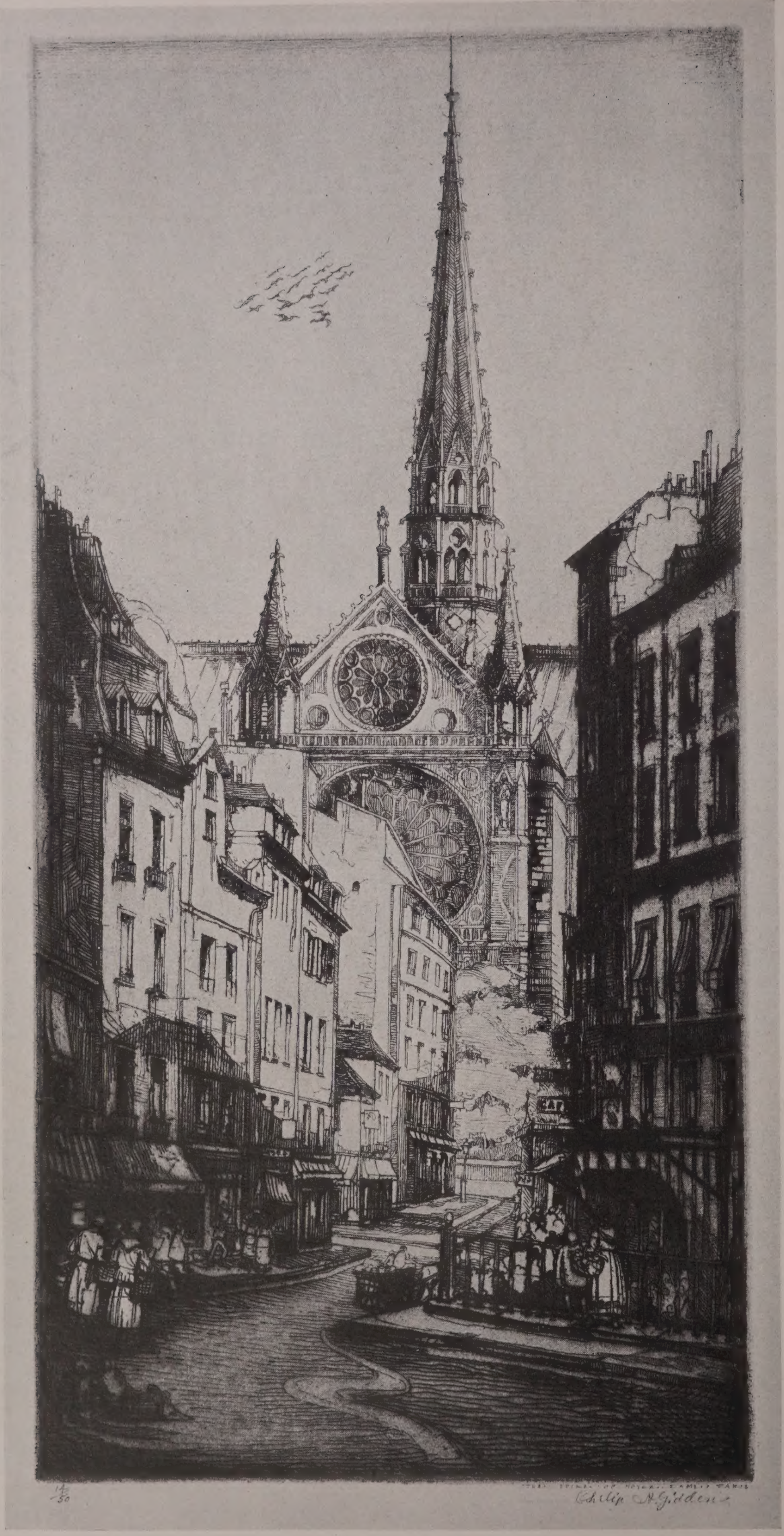
John Byers



John Byers

Willis Polk & Company





THE SPIRE OF
NOTRE DAME,
PARIS
From the etching
by
Philip H. Giddens